Rocky Flats Environmental Technology Site

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

865 CLUSTER CLOSURE PROJECT
(Buildings 865, 866, 867 and 868)

REVISION 0

September 17, 2001

1/216

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(Buildings 865. 866, 867 and 868)

REVISION 0

September 17, 2001

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ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data Quality Assessment
DQOs	Data Quality Objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, Ventilation, Air Conditioning
HSAR	Historical Site Assessment Report
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-Based Paint
LLW	Low-Level Waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
NORM	Naturally Occurring Radioactive Material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, Accuracy, Representativeness, Comparability and Completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition Survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSP	Radiological Safety Practices
SVOCs	Semi-Volatile Organic Compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total Surface Activity
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the DPP (10/8/98) and compliant disposition and waste management of the 865 Cluster anticipated Type 2 facilities (i.e., B865, B866, B867 and B868). Because these facilities were anticipated to be Type 2 facilities, the characterization was performed in accordance with the Reconnaissance Level Characterization Plan (MAN-077-DDCP). All facility surfaces were characterized in this RLC, including the interior and exterior surfaces of the facilities (i.e., floors (slabs), walls, ceilings and roofs). Anticipated Type 1 facilities in the 865 Cluster (i.e., B827, C865 and Tank 25) will be characterized at a later date during the closure project. Environmental media beneath and surrounding the facilities were not within the scope of this RLC Report and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

The RLC encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization is built upon physical, chemical, and radiological hazards identified in the facility-specific Historical Site Assessment Report. Measurement and sample locations were identified during facility walk-downs performed during the RLC.

Results indicate that radiological and beryllium contamination exists in excess of the DDCP prescribed release limits. Asbestos containing materials in both friable and non-friable forms are assumed to exist in all potential materials in Building 865. Asbestos containing materials in non-friable form were identified in 866 through inspection efforts. Fluorescent light ballasts may contain PCBs. PCB ballasts and asbestos containing materials will be removed and disposed in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations prior to facility disposition. All demolition debris will be managed in accordance with Environmental Compliance Guidance #27, *Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal,* as applicable. During an RLC walkdown, about 75 gallons of used oil were discovered within an engineered, concrete floor trench in room 145. Analytical results of this material indicated that no RCRA/CERCLA constituents are present (above regulatory thresholds), analyses also indicate that Poly-Chlorinated Biphenyl (PCB) constituents are not present in this used oil.

The exteriors of these buildings were surveyed in accordance with PDSP requirements and meet the PDSP release limits. Therefore, the exterior PDS surveys of these facilities are considered complete. If any future potentially contaminating event were to take place during D&D activities that could contaminate the exterior surfaces of these facilities, then these surfaces shall be resurveyed prior to demolition. Additionally, a confirmation smear survey shall be performed of the exterior surfaces prior to demolition. To ensure that the facility exteriors remain free of contamination and that PDS data remain valid, isolation controls have been established, and the facilities have been posted accordingly.

Based upon this RLCR and subject to concurrence by the CDPHE, the anticipated Type 2 865 Cluster facilities (i.e., 865, 866, 867 and 868) are considered to be Type 2 facilities.

1 INTRODUCTION

A Reconnaissance Level Characterization (RLC) was performed to enable compliant disposition and waste management of the 865 Cluster anticipated Type 2 facilities (i.e., B865, B866, B867 and B868). Because these facilities were anticipated to be Type 2 facilities, the characterization was performed in accordance with the Reconnaissance Level Characterization Plan (MAN-077-DDCP). All facility surfaces were characterized in this RLC, including the interior and exterior surfaces of the facilities (i.e., floors (slabs), walls, ceilings and roofs). Anticipated Type 1 facilities in the 865 Cluster (i.e., B827, C865 and Tank 25) will be characterized at a later date during the closure project. Environmental media beneath and surrounding the facilities were not within the scope of this RLC Report (RLCR) and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these are the 865 Cluster facilities. The locations of these facilities are shown in Attachment A. These facilities no longer support the RFETS mission and need to be removed to reduce Site infrastructure, risks and/or operating costs.

Before the 865 Cluster facilities can be decommissioned, a Reconnaissance Level Characterization (RLC) must be conducted; this document presents the RLC results. The RLC was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Reconnaissance Level Characterization Plan (RLCP) (MAN-077-DDCP). The RLC built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report.

1.1 Purpose

The purpose of this report is to communicate and document the results of the RLC effort. RLCs are performed before building decommissioning to define the radiological and chemical conditions of a facility. RLC conditions are compared with the release limits for radiological and non-radiological contaminants. RLC results will enable project personnel to make decommissioning decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the radiological and chemical conditions of the anticipated Type 2 facilities in the 865 Cluster (i.e., B865, B866, B867 and B868). Environmental media beneath and surrounding the facilities are not within the scope of this RLCR and will be addressed using the Soil Disturbance Permit process or the Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation. Both facilities and environmental media will be dispositioned pursuant to the Rocky Flats Cleanup Agreement (RFCA).

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1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this RLC were the same DQOs identified in the Reconnaissance Level Characterization Plan (RLCP) (MAN-077-DDCP). Refer to Appendix D, Section 2.0 of MAN-077-DDCP for these DQOs.

2 HISTORICAL SITE ASSESSMENT

Facility-specific Historical Site Assessments (HSAs) were conducted to understand facility histories and related hazards. The assessments consisted of facility walkdowns, interviews, and document review, including review of the Historical Release Report (refer to the D&D Characterization Protocol, MAN-077-DDCP). Results were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. Results of the facility-specific HSAs were documented in facility-specific Historical Site Assessment Reports (HSARs). Refer to Attachment B, Historical Site Assessment Reports, for copies of the 865 Cluster HSARs. In summary, the HSARs identify potential radiological and chemical hazards.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

The 865 Cluster was characterized for radiological hazards per the RLCP. Section 3.1 describes the radiological characterization process that was performed, and Section 3.2 summarizes the radiological hazards that were identified, if any.

3.1 Radiological Characterization

Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on or in the facilities. Measurements were performed to evaluate the contaminants of concern. Based on facility histories, personnel interviews, and previously collected isotopic data, the only radiological contaminant of concern in the 865 Cluster is uranium; there is no history of plutonium or any other radioactive isotope. Therefore, only uranium contamination surveys were performed, and the results were compared to the RLCP uranium surface contamination guidelines.

Based on facility histories, building walkdowns, and MARSSIM guidance, the existing data were broken down into survey areas (865 Survey Areas A-E) and Building Survey Areas A-C, & E). Radiological Characterization Packages (refer to Attachment C) were developed during the planning phase that describes how the facilities were broken-down into survey areas and the minimum measurement requirements per survey area.

Radiological survey area packages were developed for each survey area in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total Surface Activity (TSA), removable and scan measurements were collected in accordance with RSP 07.02, *Contamination Monitoring Requirements*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality Control measures were implemented throughout the survey and sampling process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*.

Extensive interior facility characterization data of B865 already existed from prior surveys performed by the Manufacturing Sciences Corporation (MSC) during the late 1990's and by the Oak Ridge National Laboratories (ORNL) in 1998. Therefore, only RLC data gaps were specified in the 865 Cluster Characterization Packages. This RLCR summarizes both existing MSC and ORNL data, and newly acquired RLC data. Exterior facility characterization surveys were obtained as part of a site-wide Technical Basis Document development effort and were performed to satisfy PDSP requirements as well as RLCP requirements. The 865 Cluster exterior facility characterization survey results are also reported in this RLCR.

It is assumed that all facility systems are potentially contaminated and will be disposed of as LLW or LLMW, and will not affect the facility typing determination. Therefore, only exterior surfaces of facility system piping, ducting, conduit, plenums, equipment, etc. were considered during the RLC.

It is assumed that all painted surfaces in potential MARSSIM Class 1 and Class 2 PDS survey areas will either be stripped or disposed of as LLW or LLMW during in-process D&D work. Therefore, radiological media and volumetric sampling was not performed during the RLC.

Radiological data, statistical analysis results, and survey locations are presented in Attachment E, Radiological Data Summaries and Survey Maps. Radiological survey packages are maintained in the 865 Cluster Characterization Project files.

MSC data was utilized to satisfy RLC requirements for 865 Survey Areas A-E, greater than two meters; 865 Survey Area A, less than two meters; and equipment. Refer to Table E-1 for MSC data results greater than two meters (Survey Areas A-E) and Table E-2 for MSC data results less than two meters (Survey Area A) and equipment. Tables E-1 and E-2 were derived by consolidating approximately 2,000 pages of individual survey data forms. Refer to the 865 Characterization Project Files for specific sample data results and sample map locations of all MSC data.

ORNL data was utilized to satisfy RLC requirements for 865 Survey Areas B-E, less than two meters and equipment. Refer to Table E-3 and ORNL survey maps for ORNL data results less than two meters and equipment (Survey Areas B-E).

Newly acquired data was obtained in all trenches, sumps and pits in 865 Survey Areas A, B, C, & E. Refer to the RSP 07.02 Survey Form dated 7/26/01 in Attachment E for all newly acquired data results in the 865 trenches, sumps and pits (Survey Area E).

Newly acquired data was obtained in all anticipated Type 2 Support Buildings (866, 867 and 868). Refer to the RSP 07.02 Survey Forms and maps dated 6/25/01, 6/21/01 and 6/25/01 in Attachment E for all newly acquired data results in 866, 867 and 868 (Support Building Survey Areas A-C).

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Newly acquired data was obtained of all exterior anticipated Type 2 buildings (B865, B866, B867 and B868) and Type 1 buildings (B827 and Tanks 25 and 26). Refer to the exterior data summary tables and maps for Survey Units 865001 - 865010 and 865012 in Attachment E for all newly acquired exterior data results of B865, B866, B867, and B868.

3.2 Radiological Hazards Summary

The RLC confirmed that the anticipated Type 2 facilities (865, 866, 867 and 868) contain radiological contamination above the surface contamination guidelines provided in the RLCP. B865 interior survey areas had uranium contamination above the RLCP DCGLs. None of the exterior survey areas had radiological contamination above the RLCP or PDSP DCGLs. Since the exterior radiological surveys of the 865 Cluster anticipated Type 2 facilities were performed to the PDSP criteria, these surveys also satisfy PDS requirements for the exterior surfaces of these facilities. If any future potentially contaminating event were to take place during D&D activities that could contaminate the exterior surfaces of these facilities, then these surfaces would be resurveyed prior to demolition. The following Table 3.2 summarizes the rooms and surfaces where contamination was found above the RLCP surface contamination guidelines from all RLC data sources.

Table 3.2 Radiological Data Summary
(X = Areas above RLCP Surface Contamination Guidelines, O = Areas below RLCP Surface Contamination Guidelines)

Room	Floors & Lower Walls	Upper Walls & Ceilings	Equipment
B865, Survey Area A	X	O	X
B865, Survey Area B	X	X	X
B865, Survey Area C	X	O	X
B865, Survey Area D	X	O	X
B865, Survey Area E	X	O	X
865 Exterior	O	O	O
B866 Interior and Exterior	O	O	X*
B867 Interior and Exterior	O	O	X*
B868 Interior and Exterior	O	O	X*

*Internals of systems and equipment are assumed to be uranium contaminated.

4 CHEMICAL CHARACTERIZATION AND HAZARDS

The 865 Cluster was characterized for chemical hazards per the RLCP. Section 4.1 describes the chemical characterization process, and Section 4.2 summarizes the (chemical) analytical results. Potential contaminants of concern include asbestos, beryllium, RCRA/CERCLA constituents, and Polychlorinated Biphenyls (PCBs). Refer to Attachment F, Chemical Summary Data and Sample Maps, for details on sample results and sample locations.

4.1 Chemical Characterization

Chemical characterization was performed to determine the nature and extent (if any) of chemical contamination that may be present on or within the anticipated Type 2, 865 Cluster facilities. The decision to perform chemical sample collection at specific sites was determined based upon a review of historical and process knowledge, visual inspections, and RLCP DQOs. Locations were considered for sample collection where there appeared to be reasonable cause for suspecting the presence of (RCRA/CERCLA/PCB) chemical contamination. Beryllium samples were taken at random and biased locations.

A chemical characterization package (refer to Attachment D) was developed during the RLC planning phase which describes sample type, the justification for sample locations, and the estimated number of samples to be collected per sample location and sample type. Based on the HSAR, *no known areas* of hazardous chemical contamination were apparent. However, the chemical characterization package included the stipulation that any free liquids, sludge, and/or suspicious staining identified during RLC activities would be sampled and analyzed for RCRA/CERCLA constituents and PCBs. During a RLC related reconnaissance walk-down, free liquid was, in fact, identified in a grate covered, engineered, concrete trough located in room 145 and sampled accordingly.

4.1.1 Asbestos

Based upon the limited, historical data regarding the presence of asbestos in B865, it was decided that all potential materials that could contain asbestos in B865 do, in fact, contain asbestos. Because a thorough and complete asbestos inspection would be time consuming and costly, no additional asbestos sampling was performed in B865. Asbestos inspections, and bulk sampling of suspect ACM, were performed in auxiliary buildings 866, 867 and 868. These auxiliary buildings have minimal amounts of building materials that could contain asbestos. A CDPHE-certified asbestos inspector conducted the inspection and sampling in accordance with PRO-563-ACPR, *Asbestos Characterization Protocol,* Revision 1. Potential ACM in 866, 867 and 868 was identified for sampling at the discretion of the inspector.

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4.1.2 Beryllium (Be)

Extensive interior facility Be characterization data of B865 already existed from prior surveys performed by the Kaiser-Hill Occupational Safety and Industrial Hygiene (OS&IH) organization, by MSC during the late 1990s, and by the ORNL in 1998. Therefore, only RLC data gaps were specified in the 865 Cluster Characterization Packages. This RLCR summarizes both existing OS&IH, MSC and ORNL Be data, and newly acquired RLC data. For B866, B867 and B868 there were not adequate existing data to satisfy RLC requirements. Therefore, random and biased sampling was performed in each of these facilities.

4.1.3 RCRA/CERCLA Constituents [including metals and volatile organic analyses (VOAs)]

Per the chemical characterization package, any RCRA/CERCLA aqueous samples were to be analyzed for VOAs, semi-VOAs, and metals (including mercury). For hydrocarbon sample media, "fingerprint" analyses were also requested, which indicate basic physical characteristics such volatility, flash point, and pH. Only one sample location was determined during the RLC, a trench in Room 145.

Sampling for lead in paint in the 865 Cluster was not required. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) wastes, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal.

4.1.4 Polychlorinated Biphenyls (PCBs)

As indicated by the HSARs, there were no historical documentation or worker (interviewee) recollection pertaining to spill or release events involving PCBs. However, the HSARs indicate that based on the age of B865, PCB paints, PCB-containing equipment, and/or PCB ballasts may be present. However, with regard to PCB paint, the chemical characterization package (Rev 1) stipulates that: "It is assumed that demolition debris will either be disposed of as PCB Bulk Product Waste or sampled during in-process characterization once site protocols are established based on current discussions with the Lead Regulatory Agency concerning B111." Therefore, painted concrete surfaces were not to be sampled for PCBs in paint during the RLC. If it is later determined that concrete demolition debris will be used for onsite fill material, then additional PCB sampling will take place during in-process characterization.

Any idle equipment and hydraulic lines containing hydrocarbon fluids are to be analyzed for PCBs as they are encountered during in-process characterization. Such equipment and lines containing PCBs above regulatory threshold concentrations will be dispositioned as Toxic Substance Control Act (TSCA) waste. PCB ballasts that are present in B865 will be removed and disposed in accordance with site procedures prior to building demolition.

As with the RCRA/CERCLA constituents, the chemical characterization package stipulates that any free liquids, sludge, or suspicious staining identified during RLC activities would be sampled and analyzed for PCBs. Only one sample location was determined during the RLC, a trench in Room 145.

4.2 Chemical Hazards Summary

The following sections summarize the chemical hazards identified during the RLC.

4.2.1 Asbestos

In Building 865 it is assumed that all building materials that could contain asbestos do, in fact, contain asbestos. These building materials include, but are not limited to, the following: thermal systems insulation (TSI); transite and gypsum wallboard; drywall joint compound; floor tile, linoleum and mastic adhesive; ceiling tiles; spray-on fireproofing; and tar-impregnated roofing. Therefore, no additional asbestos sampling was performed in 865.

Building 867 – No suspect asbestos containing building materials were observed. Construction materials in 867 consist of a concrete pad and footer with a steel I-beam skeleton. The walls and roof are composed of corrugated metal with fiberglass batt insulation. The air handling units have rubber expansion joints. No thermal systems insulation or spray-on surfacing materials were noted. Therefore, no asbestos bulk samples were taken.

Building 868 – No suspect asbestos containing building materials were observed. Construction materials in 868 consist of a concrete pad and footer with a steel I-beam skeleton. The walls and roof are composed of corrugated metal with fiberglass batt insulation. The air handling units have rubber expansion joints. No thermal systems insulation or spray-on surfacing materials were noted. Therefore, no asbestos bulk samples were taken.

Building 866 – Asbestos containing transite panels were detected. Corrugated, asbestos containing, transite panels (Category II, non-friable) form an external, protective wall (88 SF) at the entrance to the building. These panels must be removed prior to demolition.

Above the double-door entry, there are (13) hard fittings (<6" OD) and 2 runs of steam and condensate piping (<6" OD) with fiberglass insulation and a white canvas covering. These steam lines enter from the top of the north wall. Core asbestos samples were taken from a condensate fitting and the canvas, outer wrap. PLM sample results of these samples were negative for asbestos. Asbestos sample data and sample location maps are contained in Attachment F, Table F-1, Chemical Summary Data and Sample Maps.

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4.2.2 Beryllium

Extensive random and biased surface and air sampling for beryllium has been conducted in B865 in the past few years. The overall purpose of these surveys was to determine the ambient levels of beryllium in locations known to have processed beryllium. In general, only *accessible* surfaces were addressed. Even so, the sampling data show that many areas in B865 are beryllium contaminated. MSC collected beryllium sample data during the late 1990s (refer to Attachment F, Table F-2 for a summary of MSC data per sample area). ORNL in 1998 collected beryllium sample data (refer to Attachment F, Table F-3 for a summary of ORNL data). Tables F-2 and F-3 were derived by consolidating approximately 2,000 pages of individual survey data forms. Refer to the 865 Characterization Project Files for specific OS&IH, MSC and ORNL sample data results and sample map locations.

Additional sampling was performed as part of this RLC in the B865 pits, sumps, trenches and fume hoods. These sample locations ranged as high as 20.0 $\mu g/100cm^2$ (refer to Attachment F, Table F-4 for a summary of newly acquired data in B865 pits, sumps, trenches and fume hoods). There also were not adequate existing data in Buildings 866, 867 and 868 to satisfy RLC requirements. Therefore, random and biased sampling was performed in each of these facilities (refer to Attachment F, Table F-5 for a summary of newly acquired data in Buildings 866, 867 and 868).

In addition to the above sample data included in this RLCR, beryllium sample data were also collected and reported in sampling efforts that took place in the 1994-1995 timeframe. This sample data (Baseline Beryllium Survey, Building 865, L.A. Holwager, Safe Sites of Colorado, 9/14/95 and EG&G Be Survey reports dated December, 1993 and January, 1994) is not reported in this RLCR, but are available for review in the 865 Cluster Characterization Project files. The sample data results in these reports corroborate the MSC, ORNL, and recently acquired sample data results detailed in this RLCR.

MSC, ORNL, and recently acquired beryllium sample data, and sample location maps are contained in Attachment F, Chemical Summary Data and Sample Maps. The following Table 4.2 summaries the rooms and surfaces where beryllium contamination was found above the RLCP beryllium surface contamination guidelines from all RLCR data sources, including OS&IH, MSC and ORNL data, and newly acquired RLC data.

Table 4.2 Location of Beryllium Contamination (> 0.2 μg/100 cm^2)
(X = Areas above RLCP Surface Contamination Guidelines, O = Areas below RLCP Surface Contamination Guidelines, including rooms not listed)

Location/Room	Floors & Lower Walls	Upper Walls/Surfaces & Ceilings	Equipment
B865, Room 106	O	X	X
B865, 107	O	X	O
B865, 108	X	X	O
B865, 109	O	X	O
B865, 115	X	O	O
B865, 124	X	O	O
B865, 136	X	X	X
B865, 137	O	X	O
B865, 138	X	X	O
B865, 140	O	O	X
B865, 144	O	X	X
B865, 145	X	X	X
B865, 145A	O	X	O
B865, 146	O	X	O
B865, 148	X	X	X
B865, 151	X	X	X
B865, 153	O	O	X
B865, 172	X	X	O
N Walls	O	X	X
866	O	O	X
867	O	O	O
868	O	O	O

4.2.3 RCRA/CERCLA Constituents

Based on the HSA and facility walkdowns of the B865 Cluster, there was no record of RCRA/CERCLA constituent operations, storage or spills. However, during an RLC walk-down of B865, approximately 75 gallons of free liquid was identified in a grate-covered, engineered, concrete trench located in room 145. A sample of this liquid was collected and analyzed for VOAs, semi-VOAs, metals, and PCBs. A "fingerprint" analysis was also performed since the sample media appeared to be a hydrocarbon.

Analytical results indicated that RCRA/CERCLA chemicals are not present at concentrations above regulatory threshold concentrations. Chemical and physical analyses indicate that this fluid was machine oil that most likely was released from idle equipment in the area around the trench. RCRA/CERCLA sample data and sample location maps are contained in Attachment F, Chemical Summary Data and Sample Maps, Table F-6.

4.2.4 PCBs

The only sample analyzed for PCBs was oil obtained from the grate-covered, engineered, concrete trench located in Room 145. Analytical results indicated that PCBs are not present in this oil. Based on these results, this oil will be dispositioned as a non-hazardous, used oil. PCB sample data and sample location maps are contained in Attachment F, Chemical Summary Data and Sample Maps, Table F-6.

5 PHYSICAL HAZARDS

Physical hazards associated with the 865 Cluster facilities consist of those common to standard industrial environments and include hazards associated with energized systems, utilities, and trips and falls. There are no unique hazards associated with the facilities. The facilities have been relatively well maintained and are in good physical condition, and therefore, do not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of the 865 Cluster, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments A–G) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original DQOs of the project.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- the *number* of samples and surveys;
- the *types* of samples and surveys;
- the sampling/survey process as implemented "in the field"; and,
- the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment H.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The decommissioning, demolition and disposal of the 865 Cluster will generate a variety of wastes. Attachment G presents the estimated waste types and waste volumes by facility. There is radioactive, asbestos and beryllium waste. Asbestos and PCB ballasts will be managed pursuant to Site asbestos and PCB abatement and waste management procedures.

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, the anticipated Type 2 865 Cluster facilities (i.e., 865, 866, 867 and 868) are classified as RFCA Type 2 facilities pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). The Type 2 classification is based on a review of historical and process knowledge, previously acquired and newly acquired RLC data, and will be subject to concurrence by the Colorado Department of Public Health and the Environment (CDPHE).

The RLC of the 865 Cluster was performed in accordance with the DDCP and RLCP, all RLCP DQOs were met, and all data satisfied the RLCP DQA criteria. The exteriors of these buildings were surveyed in accordance with PDSP requirements and meet the PDSP release limits. Therefore, the exterior PDS surveys of these facilities are considered complete. If any future potentially contaminating event were to take place during D&D activities that could contaminate the exterior surfaces of these facilities, then these surfaces shall be resurveyed prior to demolition. Additionally, a confirmation smear survey shall be performed of the exterior surfaces prior to demolition. To ensure that the facility exteriors remain free of contamination and that PDS data remain valid, isolation controls have been established, and the facilities have been posted accordingly.

Demolition of these facilities will generate radiological, asbestos and beryllium wastes. PCB ballasts and asbestos containing material will be removed and disposed of in compliance with EPA and CDPHE regulations. Environmental media beneath and surrounding the facilities will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

9 REFERENCES

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PRO-476-RSP-16.02, Radiological Surveys of Surfaces and Structures, September 30, 1999.

PRO-477-RSP-16.03, Radiological Samples of Building Media, September 30, 1999.

PRO-478-RSP-16.04, Radiological Survey/Sample Data Analysis, September 30,1999.

PRO-479-RSP-16.05, Radiological Survey/Sample Quality Control, September, 30, 1999

RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.

RFETS, Historical Site Assessment Report for 865 Cluster.

Confirmatory Radiological Survey of the National Conversion Pilot Project Buildings 883 and 865 at the Rocky Flats Environmental Technology Site, June 1998.

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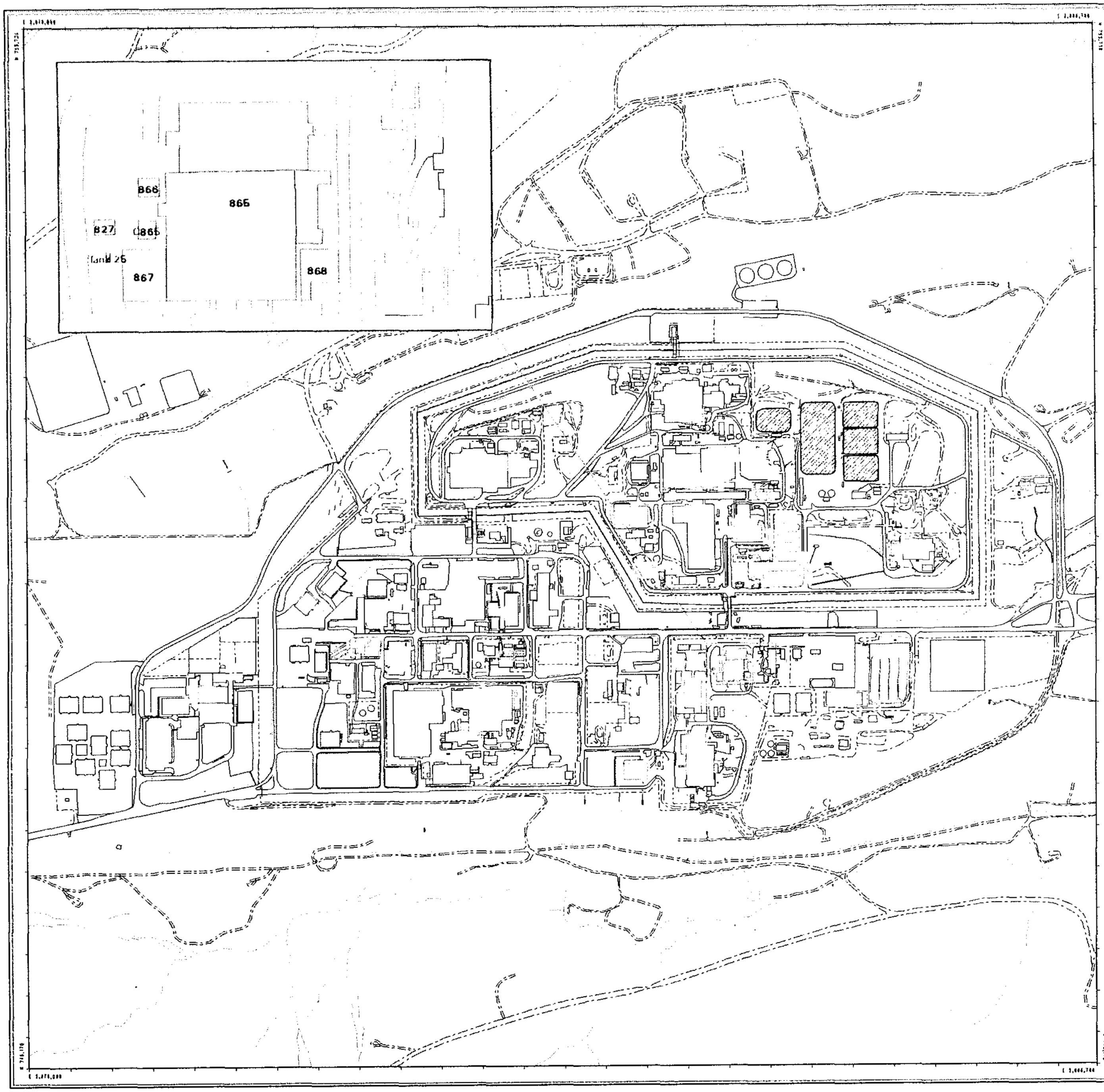
ATTACHMENT A

Facility Location Map



865 Cluster

(As of August 28, 2001)

EXPLANATION

Buildings & Tanks

Standard Map Features

Buildings and other structures

Solar Evaporation Ponds (SEP)

Lakes and ponds

Streams, ditches, or other drainage features

Fences and other barriers

Paved roads

Dirt roads

DATA SOURCE BASE FEATURES:
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas. Digitized from the orthophotographs. 1/95

N

Scale = 1 : 13340
1 inch represents approximately 1112 feet

250 0 500 1000ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

GIS Dept. 303-966-7707

Prepared by:
DynCorp
THE ART OF TECHNOLOGY

Prepared for:
KAISER-HILL
COMPANY

MAP ID: 01-0896

August 28, 2001

NT_Svr w:/projects/fy2001/01-0896/b865-clust.aml

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ATTACHMENT B

Historical Site Assessment Report

BUILDING 865 CLUSTER

HISTORICAL SITE ASSESMENT (HSA)

JULY 2001

TABLE OF CONTENT

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1.0 INTRODUCTION

This Historical Site Assessment (HSA) is intended to provide a summary of the historical operations, building descriptions, as well as an overview of the facility contamination history. Much of the Building 865's process history and the physical descriptions were obtained from the Historical Release Report (EG&G, 1994) and the Draft Safety Analysis Report (EG&G, 1982). Other sources of information were the Building WSRIC, Site Master List of RCRA Units and the Site IHSS, PAC, and UBC databases.

The individual Subject Mater Experts (SMEs) should evaluate/verify the information during the RLC/PDS process. The SMEs may need to review additional documents and perform additional interviews.

This HSA was performed prior to SME walkdowns, and chemical and radiological characterization package preparations. Information contained in this HSA only represents a "snapshot" in time. Subsequent data may be obtained during SME walkdowns and chemical and radiological characterization package preparations, which may conflict with this report. However, this report will not be amended, and the newer data will take precedence over the data in the report. Newer Data will appear in the RLCR/PDSR.

Building 865 was constructed in 1970 as a research and development facility for non-plutonium metals and is an anticipated type 1 facility. It is a one-story, rectangular structure, made of pre-cast concrete twin-tee panels and concrete blocks that was divided into two areas built on an on-grade concrete slab. The north side has offices, metallurgical laboratory, machine shop, maintenance shop, utility room, and locker/shower and restroom facilities. The south side is a high-bay area that houses the metalworking operations. In the early 1980s an addition was added to the original building on the east side of the high-bay, which was used to store classified molds and metal-forming dies and parts.

The most common metals that were examined and worked with were depleted uranium, stainless steel, and aluminum. Special metals that were also worked were beryllium, copper, gold, iridium, molybdenum, niobium, platinum, silver, tantalum, titanium, tungsten, vanadium, and alloys of these metals.

Metalworking operations consisted of arc and vacuum induction melting, hammer forging, hot and cold isostatic pressing, hydrospinning, swaging, extruding, drawing, rolling, furnace heat treating in vacuum and inert atmosphere, salt bath heating for forming, glovebox operations, cutting, and shearing.

Standard machining operations were carried out using lathes, milling machines, surface grinders, drill presses, sawing, specialized tracer equipped lathes, and milling machines.

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Metallurgical tests performed in the laboratory included testing of the tensile properties of metals at room, elevated, and low temperatures; hardness; and macroscopic and microscopic examination of metals and alloys.

Support buildings associated with Building 865 are:

- Building 827, The emergency generator facility -This is an anticipated Type 1 facility,
- Building C865, The cooling tower - This is an anticipated Type 1 facility,
- Building 866, The waste transfer station - This is an anticipated Type 1 facility,
- Building 867, The upgraded exhaust plenum - This is an anticipated Type 2 facility,
- Building 868, The upgraded exhaust plenum - This is an anticipated Type 2 facility .

Support tanks associated with Building 865 are:

- TK 25 - New diesel tank - This is an anticipated Type 1 facility.
- Tanks 010 - Underground diesel storage tank- closed - This is an anticipated Type 2 facility.

The Building 865 support facilities and support tanks will be discussed in more detail below.

2.0 PHYSICAL DESCRIPTION OF BUILDING 865

2.1 General Construction and Foundation

Building 865 is a one-story structure divided into two sections: the south section and the north section. The south section is a high-bay area, which is a 34-foot high and 152-foot square structure. The high-bay area is constructed of pre-stressed concrete twin-tee panels, pre-cast columns, and T-beams. A 30-foot by 75-foot mezzanine supports the supply ventilation equipment, caustic scrubber for acid gases from hoods, and the air sampler vacuum pump. The floor, which is six-inch-thick reinforced-concrete, is supported by steel framing on steel columns.

The north wall of the high-bay area acts as a fire barrier between the high-bay and the north section, and has 8-inch-thick fire resistant panels attached to the concrete twin-tee walls.

The north section is 17-foot high, 82-foot wide and 152-foot long. The walls are constructed of reinforced-concrete block.

The foundation is constructed of reinforced, cast-in-place concrete piles and concrete grade beams supporting the twin-tee panel walls and pre-cast support columns. The piles

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are 2 to 3 feet in diameter and 7 to 26 feet deep with the bottoms belled out at the bottom. The piles are placed approximately 4 feet into the bedrock.

In early the 1980s, an addition was added to the east side of the original structure. This addition that was used for general storage and to add a new receiving dock.

2.2 Walls

Exterior walls of the high-bay area are pre-cast, pre-stressed, concrete twin-tee construction. The office-laboratory area is constructed of 8-inch-thick concrete blocks. The east addition has exterior walls constructed of steel-beam framing with steel-panel walls. The new dock area is constructed of 6-inch concrete blocks.

The interior walls are primarily constructed of gypsum board with metal studs. The locker room and restrooms have ceramic tile wainscoting approximately six feet high.

The arc furnace has 9-inch-thick, poured-in-place, reinforced-concrete walls surrounding around it. The hot isostatic press has concrete block walls surrounding it. The cold isostatic press has 6-inch-thick reinforced-concrete wall surrounding it. The electrorefining cell, in the southwest corner of the high-bay, had a wall constructed of gypsum board and metal stud built around it.

The walls of the high-bay are insulated with three-inch-thick fiberglass insulation held in place with three-inch-wide, ¼-inch-thick, black-iron straps bolted to the walls. The walls have a fiberboard wainscoting 6-foot high to protect the insulation from being damaged. The walls in the east addition are not insulated.

2.3 Floors

The ground floor is an on-grade, 6-inch-thick, reinforced concrete slab. The floors in the offices, hallways and the laboratory are covered with vinyl-asbestos tile. Some floors in the offices, hallways and part of the lunch-break room have carpet laid down over the vinyl-asbestos tiles.

The floor for the mezzanine is a 6-inch-thick, reinforced concrete slab. The floors in the high-bay, machine shop, and the maintenance shops are sealed with a concrete sealer and then painted. The floor of the mezzanine is sealed with a concrete sealer.

Floors in the lavatories, locker rooms, and shower rooms are tiled with 1-inch-square ceramic tile.

When the isostatic presses were installed, the original floor in the high-bay was removed, and a new reinforced floor was poured to support them. The base under the presses is two feet thick, and the area under the walls is one-foot thick.

There were two waste tanks located in the sump in the floor slab along the north wall of the high-bay area. These sumps contained two tanks designed to collect process wastes

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from the metalworking, metallurgy, and machining operations. One of the tanks was never used. These tanks where removed after the construction of the waste transfer station, Building 866. These tanks are identified as RCRA unit 40.46 and 40.47 in the list of RCRA units in section 13.3. See section 3.0, subsection "Process Waste System" for additional information.

2.4 Ceilings

The offices, halls, laboratories, and lunch-break room have suspended acoustical tile ceilings. Locker rooms and restrooms ceilings are suspended metal laths covered with cement plaster. The rest of the building ceilings are the unfinished side of the twin-tee concrete roof panels.

2.5 Roof

The roof on the original building is made of 2-inch-thick concrete poured on top of pre-stressed concrete twin-tee slabs. The roof has 1-inch-thick urethane foam insulation finished with neoprene roofing material. The east addition has metal decking on top of the steel framing.

The roof has a ridgeline at the center for drainage and is pitched to the east and west. Roof drains discharge to the ground through downspouts, and the water is diverted away from the building to the plant's surface water discharge system.

2.6 Doors

There are 10 personnel doors leading into the building as well as numerous interior doors. The main entrance to the building is on the east side of the office-laboratory section. The main entrance has double swing-out doors and is set in aluminum frames with safety glass panels. All other doors are hollow metal. Some are insulated, some have wire-reinforced glass panels, and a few have louvers in them. Some of the doors in the offices have see-through panels of translucent plastic. There are two steel roll-up doors at the south end of the building and one at the east dock.

2.7 Bridge Cranes

There are three bridge cranes in the building that service the high-bay area and the machine shop. The bridge crane in the machine shop is a ½-ton crane that travels the length of the shop. There are two bridge cranes that service the high-bay area. One is a 2-ton crane between column lines 1 and 2 that services the vacuum casting furnaces and the hydrospinning machine. The second bridge crane is a 10-ton crane between column lines 4 and 5 that services the extrusion press, heat treating furnaces, and the rolling mill.

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In addition, there is a one ton jib crane located at the foot of the stairs going up to the casting furnace platform. In the beryllium electrorefining room is a ½ ton bridge crane.

3.0 UTILITIES

Argon

Argon is used in various heat-treating operations of the facility. Argon cylinders were stored in the northeast area of the high-bay (room 145) and attached to a manifold system. From the manifold the gases were distributed by a main line to the end-use operations.

Cooling Water Supply

Equipment needing to be cooled is cooled by a recirculating closed-loop, cooling system. Water circulates through the equipment by a pump and then back to the cooling tower located west of the building for heat extraction. The water in the cooling loop is a 40/60 mixture of water and ethylene glycol to prevent freezing of the system in winter. A more detailed description of the operation of the Building C865 Cooling Tower can be found in Section 10.0 "Building C865 Cooling Tower".

Compressed Air

Compressed air is supplied from one of two compressors, located in the mechanical room, in the southwest corner of the single-story portion of the building. The compressors run alternately with one on standby. The air is cooled, dried and stored in a receiver tank, and from there it goes into the distribution line to its end use.

Fire Suppression System

Sprinklers are installed throughout the Building 865 and the two exhaust plenums and are fed by the domestic cold water lines that enter the building through an 8-inch line on the east side of Building 864. The two exhaust plenums have overheat detectors that activate the deluge spray.

Helium

Helium cylinders were stored in the northeast area of the high-bay and attached to a manifold system for each gas. From the manifold the gases were distributed by a main line to their respective end-use points

Nitrogen

Nitrogen was used in the beryllium electrorefining process. The gas cylinders were attached to a manifold and distribution header outside door 8 at the southwest corner of the building.

Oxygen and Propane

Oxygen cylinders, propane tanks and their respective manifolds were located outside on the west side of the building and piped to the hydrospinning operation where they were used. The cylinders were located approximately 50 feet to the west of the building.

Process Waste System

The liquid process waste system has drains throughout the building. The process wastes was originally designed to drain to two waste collection tanks located in a sump in Building 865. The waste left the building on the west side through a 3-inch stainless steel pipe to the site process waste system. Once the waste transfer building (Building 866) was constructed in 1972, Building 865 process waste was collected in Building 866 prior to discharge to the plant process waste system. See section 2.3 for additional information.

Sanitary Sewer

The sanitary sewer system services the Building 865 showers, washroom sinks, toilets, and janitor closets. Sanitary wastewater leaves the building through a 4-inch pipe on the east side of the building and is processed at the plant sewage treatment plant.

Steam System

Steam is supplied to the building from the steam plant, Building 443, and enters the building at 110 psi. It is used for heating the building, making hot water, and operating the steam hammer. The condensate is piped back to the Building 443 condensate receiver tank.

Storm Drains

Foundation drains were installed around the perimeter of the building, and a sump pump was installed at the lowest point of the northeast corner of the building. The discharge from the pump is led away from the building by a ditch into the existing plant surface water drainage system.

Water

Raw water is supplied to the building by the plant water system. Water is supplied through a 10-inch main that runs east along Central Avenue.

4.0 ELECTRICAL

Electric power is supplied to Building 865 from the plant 13.8 kV lines from Main plant substations 679 and 680. The 13.8kV power supply is stepped down to 480 V at the

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building's substations 865-1 and 865-2 for use by the Building 865 motor control center and emergency motor control center.

The transformer and switchgear equipment in Building 863 supplied power to the extrusion press. This equipment is not longer active.

5.0 HEATING, VENTILATION AND AIR CONDITIONING (HVAC)

The building has two supply and three exhaust systems that provide a single pass air system. The system is operated such that the high-bay is negative to the office area and the outside air.

The supply system plenums are located on the mezzanine in the high-bay. Air is drawn into the system through two roof inlet vents to each plenum. The air is heated in a preheat coil, filtered through a one stage bag filter, and washed in an air washer. Air is then distributed to the building by two supply fans, F-1 and F-2. Fan F-1 supplies the west half of the offices and the west half of the high-bay. F-2 supplies the east half of the offices and the east side of the high-bay.

Air from the offices is exhausted through an exhaust system located in the mechanical equipment room. The fan is suspended from the ceiling and exhausts through the roof.

Several of the metalworking and machining operations in the machine shop have exhaust hoods to contain the spread of contamination during operations. The exhaust from the machine shop hoods is pre-filtered before it enters the exhaust duct. The air is then exhausted from the building by an exhaust fan and HEPA filtration in Building 867 located at the southwest corner of the building. The remaining shop areas exhaust through the general shop exhaust system to the fan and HEPA filters in Building 868 located at the southeast corner of the building. There are two exhaust fans in Buildings 867 and 868, with one always in operation to provide room exhaust.

Hoods and operations that generated acid gases were exhausted through the caustic scrubber located on the mezzanine and then to the plenum in Building 867. The scrubber is not longer operational.

The general room air in the beryllium electrorefining room was maintained at a slight negative pressure to the high-bay room by controlling the inlet and exhaust flow with powered dampers. Air exhausted from the gloveboxes and the beryllium chloride preparation areas were exhausted to a caustic scrubber outside the building at the southwest corner. The air from this system was exhausted to the plenum in Building 867. Solution level and pH in the scrubber was maintained automatically with potassium hydroxide added by pump from the supply drum. The liquid level in the scrubber was increased by adding water or lowering by pumping the excess solution to the sump in room 151A. The sump in Room 151A is a closed system. The solution being referred to is the result of the Electrorefining (ER) Cell Stripout Process, located in Rooms 151 and 151A. This process was used for decontamination and decommissioning of the Beryllium Purification Process in Building 865. An electrolyte was prepared from salts consisting of

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potassium chloride, lithium chloride, and beryllium chloride, which were mixed in a salt mix loading box and were collected in a low-level waste container; wash water was taken to Building 374 for treatment.

6.0 BUILDING 865 OPERATIONAL HISTORY

6.1 Historical Processes

Building 865 was used for fabricating prototype hardware, and developing metal alloys and processes. Operations include metalworking, machining, and metallurgical laboratory operations.

The most common metals processed were depleted uranium, steel, and aluminum. Other metals worked in the building included copper, molybdenum, beryllium, titanium, silver, niobium, tantalum, gold, iridium, platinum, vanadium, tungsten, and alloys of these metals.

Metalworking

All metalworking operations were conducted in the high-bay area. Metalworking processes included arc and vacuum induction melting, hammer forging, press forming, hydrospinning, swaging, extruding, drawing, rolling, diffusion bonding, furnace heat treating, salt bath and glove box operations, and cutting and shearing.

Metals were melted using one of two methods: arc melting and vacuum furnace melting. In arc melting, the furnace is evacuated of air. With the power turned on, an arc is struck between the electrode and a starting block placed in the mold. Heat from the arc progressively melts the end of the electrode. The molten metal is transferred across the arc and deposited on top of an ingot situated in the mold. Materials melted with this process included stainless steel alloys, depleted uranium, depleted uranium alloys, and beryllium. In vacuum melting, an electrical current is induced into the metal by an induction coil connected to a power supply. The metal charge acts as a secondary circuit for the current. The melted metal (including beryllium, depleted uranium, copper, aluminum, lead, and steel) is then cast into molds.

There were several processes used to create forms or shapes for parts. Hammer forging, using a steam hammer, was used to force heated metal to conform to the shape of a metal die by hammer blows. The press-forming process pressed hot or cold beryllium, uranium, steel, and other ferrous and nonferrous metals into the desired shape. Hydrospinning formed hot or cold metals into desired shapes using rollers while the metal was rotated at a high speed. A torch, which burned a mixture of oxygen and propane, was used to keep the metal hot during hot metal hydrospinning. Swaging subjected stock (bar or tube) to a series of blows from two or four dies, which rotated around the stock so that the piece was hammered from all sides.

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Other methods were used to produce specific types of shapes. Extrusion was used to produce cylindrical bars, hollow tubes, and shapes with irregular cross-sections by forcing preheated metal through a die orifice under high pressure. Drawing was used to change the cross-section of metal wire, rods or tubing by pulling the metal through a die. The rolling process, used to reduce cross-section, shaped metals by passing them between two rollers revolving at the same speed in opposite directions.

Metal parts were joined in a bonding process where thin layers of bonding material were plated on the surfaces of materials being joined. Pressure was applied to the joined surfaces (under an inert atmosphere or a vacuum) to create the bond.

Formed metal parts were furnace heat-treated in an argon or air atmosphere, or under a vacuum using electric resistance-type furnaces. Salt baths were used to heat metal pieces to a high temperature in preparation for forging, rolling, or some other type of working.

Operations involving beryllium powder were conducted inside of glove boxes. High-purity beryllium was produced and canned (sealed in a can) in glove boxes. Beryllium chips from lathe operations were processed in two types of mills (ball mill and a fluid energy mill) to form a powder. The powder was then sealed into stainless steel containers in preparation for further processing.

A large abrasive wheel was used to reduce large billets and bar stock to a useable size for further fabrication. Sheet metal was cut to the desired shape and size using a shear press.

Machining

Machining operations included milling, grinding, drilling and cutting operations. The machine shop was equipped with standard equipment, including surface grinders, drill presses, and saws. Other equipment in the machine shop was specialized; lathes and milling machines in the shop were equipped with tracers.

Metallurgy

A metallurgy laboratory, located in the northeastern corner of the building, conducted mechanical testing of metals and prepared metal samples for examination. Mechanical tests determined the tensile properties of the metals at room, elevated, and very low temperatures. Other tests measured hardness of the metals and alloys using various methods (Brinell, Rockwell, Knoop and Diamond Pyramid). These test methods used the depth of indentation of a steel ball, or a diamond pyramid under pressure, to measure hardness.

Samples were prepared for macroscopic and microscopic examination by sawing, cutting, mounting, grinding, polishing and etching operations. After preparation, the samples were visually examined at various magnifications and optical conditions to identify structural details, including the crystalline structure of alloys.

Miscellaneous Operations

A beryllium electrorefining cell, operated briefly in 1987, was designed as a one-half scale beryllium recovery experimental cell.

The final use of the building was to conduct metallography laboratory work and decontamination activities for the product research and development group.

6.2 Current Status

Currently the building is unoccupied. The cold area has had all of the office furniture and metallographic equipment removed from their rooms. The restrooms and locker rooms have had all the toilets, washbasins and lockers removed. No equipment has been removed from the mechanical room.

The hot side of the building has had hazard reduction operations performed in some areas. This consisted of the removal of the equipment in the machine and maintenance shops, the beryllium electrorefining gloveboxes and cell, the induction casting furnaces, and the arc melting furnace.

7.0 BUILDINGS 867 AND 868 EXHAUST PLENUMS

Buildings 867 and 868 are two exhaust plenums used to exhaust Building 865. Building 867 is located on the southwest corner of Building 865, and Building 868 is located on the southeast corner of Building 865. Building 867 is used to exhaust the air from the general work area of the Building 865 high-bay and laboratories. Building 868 is used to exhaust task specific air from hoods and machining equipment in Building 865. The original plenums were constructed in 1972 as part of the Building 865 original construction. The exhaust plenums were later upgraded in 1978.

The original exhaust plenums were a single stage filtration system with a single fan plenum. If power was lost to the fan, natural draft through the system's exhaust stack provided the exhaust for the building. When the Building 867 and Building 868 systems was upgraded, the size of the plenums were expanded to a two-stage filtration system. In addition, an additional fan was added.

The original plenum construction used square-metal-tube framing with sheet metal welded to the outside of the tube frame. The metal framing and the sheet metal walls where painted inside and out. The 1978 upgrades had similar construction as the original structures and used square-metal-tube frame. The only difference was that the sheet-steel walls were welded to the inside of the metal frame instead of the outside of the metal frame like the original section of the plenum.

The Building 867 and 867 plenums are a two-room structure consisting of a fan room, which houses the exhaust fans and the control boards. The fan rooms are posted as potentially containing asbestos. The second room is the filter plenums, which holds the

banks of HEPA filters. Since the plenums are posted as CAs, they were not entered for inspection.

The Building 867 filter plenum is currently and has been operational as the ventilation system for Building 865 since 1972. It was upgraded in 1978 to provide a second stage of filtration.

8.0 BUILDING 827 EMERGENCY GENERATOR

Building 827 is the Emergency Generator facility and is a 385 square foot structure built in 1972. Building 827 is a steel-frame building covered with steel, baked-on-enamel, panels. The building houses a diesel-driven generator that supplies emergency power to Buildings 883, 865 and 886. The building contains switchgear equipment to direct the emergency power and controls for starting the diesel engine.

Currently the building is operational and providing emergency power to all three buildings.

9.0 BUILDING C865 COOLING TOWER

Building C865 was constructed in approximately 1972 as part of the original construction of Building 865. Building C865 is an approximately 20-foot wide by 20-foot long by 10-foot high structure, which provides process cooling water to the machining equipment in Building 865. The cooling tower, located to the west of Building 865, is an open-loop, forced-draft tower in which cooled water is pumped to a heat exchanger in the mechanical room of Building 865. The water was treated to reduce sludge build-up and prevent the growth of algae. The tower is constructed of a metal frame with plastic distribution trays to disperse the cooling water. The ends of the tower and the side louvers may be constructed of asbestos board. The electric pump for circulating the tower water is located to the north side of the cooling tower.

The tower sits inside a concrete basin with 1-foot containment walls. The basin currently has standing water with algae growing in it. The integrity of the basin and the sump can not be determined. The basin was used to collect the cooling water and direct it to the sump on the north side of the tower. The circulating pump was used to redistribute the water through the process cooling system. Make-up water was supplied by the plant water system.

Some of the chemical which were used as algaecides and corrosive Inhibitors were:

1) HTH (R) All Purpose Algaecide: Ammonium, Alkyl (C12-C16) Dimethtylbenzyl-, Chlorides.
2) Nalco 2536 Corrosion Inhibitor: Sodium Nitrite and Sodium Tetraborate (anhydrous).
3) HTH (R) "Mustard" Algaecide: Alkyldimethyl Dichloro Benzyl Ammonium Chloride and Copper Triethanolamine Complex.

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In 1992 RFETS stopped the practice of adding chemicals to the cooling water. Building C865 is currently out of service.

10.0 BUILDING 866 WASTE TRANSFER STATION

Building 866 is known as the Waste Transfer Station and is an approximately 27-foot by 25-foot building constructed in 1972. Building 866 is a single-story, pre-engineered, metal-frame building on a concrete foundation and floor. The walls are constructed of enamel-covered steel panels with insulation sandwiched inside the panels. The floor has an approximately 3-foot by 3-foot sump in the northwest corner, which has been sealed due to cracks in the walls of the sump (see section on IHSSs, PACs and UBCs below for more information). The panels are painted white on the inside of the building and olive drab on the outside. The floor of the building is painted gray. The roof drains to a gutter and downspout on the west side of the roof, and the downspout discharges to a splash block on the ground. Water is then controlled by the site surface water drainage system.

Building 866 has a single entrance consisting of a double-hung metal door. Building 866 is connected to plant power for lighting and to operate the transfer pumps. The building is connected to plant steam for heat. Fire protection is provided by hand-held fire extinguishers. Originally liquid wastes in Building 865 drained to tanks located under the floor of Building 865. The Building 865 waste was then pumped under the floor of the building to the waste transfer system via Valve Vault 006.

Building 866 was built to house the waste holding tanks for Building 889 and Building 865. Building 866 originally had five waste tanks. Tanks T-4 and T-5 were each 400-gallon stainless-steel tanks and received waste from Building 889. Tanks T-4 and T-5 were closed and removed in 1998 in accordance with "Closure Plan, B883 A&B Series Waste Water Tank Systems". Tanks T-1, T-2 and T-3 are each 1200-gallon fiberglass tanks and received waste from Building 865. Tanks T-1, T-2 and T-3 are RCRA Stable in accordance with 99-DOE-03494. The tanks are equipped with a HEPA filter pressure-relief system that vents through the roof.

Waste from Building 889 was sent to the Building 866 by underground double-walled pipes. Waste from Building 895 was sent to Building 866 by double-walled overhead piping. Two pumps located inside Building 866 were used to pump the liquids between tanks and to Valve Vault 006 for transfer to the process waste distribution system. Currently the building is out of service. Signs posted on the doors leading into the building alert personnel of internal contamination in the tanks and contamination in the building due to spills.

The waste streams entering Building 866 from Building 865 contained solvents, metal fines, acids, bases, depleted uranium, and beryllium. Building 866 previously collected the aqueous waste stream from Building 889, which included detergents, oils, and possibly depleted uranium and beryllium. The Building 889 process waste system has been shut down, pumps have been locked out, and the transfer line has been blanked off. The Building 865 process waste system is currently out of service and has been placed in a RCRA STABLE condition.

11.0 EXTERIOR TANKS

The Building 865Cluster has 5 exterior support tanks identified on the facility list. These tanks are:

- TK 25 - 1000-gallon aboveground diesel storage tank installed to replace UST-25 (a.k.a. tank 010) and is located south of Building 827. TK-25 is currently active.
- Tank 010 - 2000 gallon underground diesel storage tank and is located south of Building 827- This tank has been RCRA Closed and foamed in place.

12.0 POTENTIAL CONTAMINATION AND HAZARDS

Most of the process areas of Building 865 are contaminated with depleted uranium and other non-plutonium metals summarized in Section 1.0 above. In addition, beryllium was extensively worked and handled in the process and laboratory areas of Building 865. Many of these areas are posted as CAs. A current listing of CAs within Building 886 and its support facilities can be obtained from the building Radiological Control Manager. Building 865 is currently going through significant hazard reduction operations. Hazard and contamination levels may change with time.

The upgraded exhaust plenums, Building 867 and Building 868, are posted as CAs

Building 866 is also posted as a CA. Waste tanks have internal contamination, and the floors of Building 866 are contaminated from past spills.

Building 827 has no radiological posting, but does have oil and diesel fuel stains on the floor.

Additional information on releases in and around Building 865 and the Building 865 support facilities are in Section 14, "Individual Hazardous Substance Sites (IHSSs), Potential Areas of Concern (PAC) and Under Building Contamination (UBC)"

12.1 Asbestos

All facilities in the Building 865 Cluster have asbestos postings. Building 865 is known to contain some asbestos containing material (ACM). A comprehensive asbestos building inspection has not been performed. Common ACM includes exterior siding, floor tiles, ceiling tiles and thermal insulation.

12.2 Beryllium

Building 865 has several rooms on the "Location of Known Beryllium Areas" list. These rooms are listed below. In addition, Building 867 and Building 868 are the plenum buildings for Building 865 and are also on the known beryllium location list. . This list is not intended to be a comprehensive list of current Be contamination areas, but instead

intended to provide a indication of the extent of Be contamination in the Building 883 Cluster. Be sampling will be performed, as needed, throughout the D&D process to determine the presence or absence of Be.

BUILDING	ROOM	ACTIVITY
865	102	Metallurgical Laboratory
865	103	Metallurgical Laboratory
865	105	Unknown
865	106	Metallurgical Laboratory
865	107	Machining for Metallurgical Laboratory
865	108	Metallurgical Laboratory
865	135	Machining beryllium copper and maintenance shop
865	136	Machining Beryllium
865	138	Machine shop office for room 136
865	139	Unknown
865	144	Mold preparation for casting, and can preparation for HIP/CIP
865	145	Beryllium casting/powder metallurgy/forming/heat treating
865	145A	Control room for the extrusion press/beryllium control area
865	146	Step off pad
865	147	Size characterization of beryllium powder
865	148	Waste storage/beryllium control area
865	149	Collection of beryllium fines (house vacuum system)
865	151	Beryllium electrorefining cell
865	151A	Beryllium electrorefining cell
865	152	Beryllium electrorefining cell control room
865	153	Hot isostatic press (HIP) (beryllium forming)
865	171	Shipping and receiving
865	172	Permacon used to repackage beryllium material
867	N/A	Plenum for Building 865, local exhaust system
868	N/A	Plenum for Building 865, general room ventilation

12.3 RCRA Regulated Units.

The Building 865 cluster has several areas on the "Master List of RCRA Units". These areas are listed below. Building 865 and Building 866 are the only buildings in the Building 865 Cluster with location identified on the Master List of RCRA Units.

Unit #	Building	Unit Description	Regulatory Status	Closure Status
40.46	865	Sump Tank P- 9 (Sump 145A), Rm. 145	No longer subject to RCRA regulation	CLOSED in accordance with revision to "Certification of RCRA Closures for Buildings 865, 883, and 889 (866)"; original Closure Certification dated 4/30/98 (ref. 98-DOE-03363, 6/10/98);

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				revision dated 4/27/99 (ref. memo from D. Pontius, P.E., to T. Hopkins, RMRS Env. Mgr., 4/27/99).
40.47	865	Sump Tank ST-151	Existed, but never used; not subject to RCRA regulation	WITHDRAWN 4/12/95 (ref. 95-DOE-09335).
865.3	865	Polymer Macroencapsulation	No longer subject to RCRA regulation	ADMINISTRATIVELY CLOSED per 00-RF-01226 (04/12/00; transmitted to CDPHE 04/28/00). This unit was never placed into service, never used to treat hazardous waste, and has no intended use elsewhere on Site.
40.17	866	Process Waste Tank T-1	INTERIM STATUS	RCRA STABLE per 99-DOE-03494 (1/28/99); approved by CDPHE 8/23/99; currently subject to quarterly inspections; to be closed in accordance with "Closure Plan for Interim Status Units at RFETS."
40.18	866	Process Waste Tank T-2	INTERIM STATUS	RCRA STABLE per 99-DOE-03494 (1/28/99); approved by CDPHE 8/23/99; currently subject to quarterly inspections; to be closed in accordance with "Closure Plan for Interim Status Units at RFETS."
40.19	866	Process Waste Tank T-3	INTERIM STATUS	RCRA STABLE per 99-DOE-03494 (1/28/99); approved by CDPHE 8/23/99; currently subject to quarterly inspections; to be closed in accordance with "Closure Plan for Interim Status Units at RFETS."
40.32	866	Waste Tank T-4 (B889 waste)	No longer subject to RCRA regulation	CLOSED in accordance with "Closure Plan, B883 A&B Series Waste Water Tank Systems" (dated 6/23/97; approved by CDPHE 10/16/97); Closure Certification signed 4/30/98 (ref. 98-DOE-03363, 6/10/98). (Note: The secondary containment for this unit is in a RCRA Stable configuration.)
40.33	866	Waste Tank T-5 (B889 waste)	No longer subject to RCRA regulation	CLOSED in accordance with "Closure Plan, B883 A&B Series Waste Water Tank Systems" (dated 6/23/97; approved by CDPHE 10/16/97); Closure Certification signed 4/30/98 (ref. 98-DOE-03363, 6/10/98). (Note: The secondary containment for this unit is in a RCRA Stable configuration.)

12.4 Idle Equipment

None of the facilities in the 865 Cluster have equipment on the Idle Equipment Management Plan's list of RCRA Hazardous Equipment. The site-wide Idle Equipment Management Plan no longer tracks RCRA non-hazardous equipment. An outdated list of

RCRA non -hazardous equipment can be obtained from the RFETS Environmental Systems and Stewardship Group.

13.0 INDUSTRIAL HAZARDOUS SUBSTANCE SITES (IHSSS), POTENTIAL AREAS OF CONTAMINATION (PACS) AND UNDER BUILDING CONTAMINATION (UBC)

The Building 865 Cluster has several IHSSs, PACs, and UBCs that are either in the buildings, under the buildings, or close enough to the buildings to warrant mention in this report. Most of these IHSS, PACs, and UBCs are not within the scope of this project. They have been identified to provide general information about events which have occurred in the vicinity of the 865 Cluster facilities.

UBC

Building 886 is on the UBC list as UBC-865. The UBC list is not intended to be a complete list of buildings with UBC, but rather a list of buildings whose operating history or historical event show that UBC may likely exist. Additional information can be found in the individual IHSS/PAC reports.

- UBC 865. Building 865 Material and Process Development Lab. This UBC is active but out of the scope of this project.

  Building 865 is identified, as an UBC because of the documented and undocumented releases believed to have occurred from the waste process lines and the original waste process tank located in the Building 865 floor slab. See Section 2.3 and Section 3.0 for additional information.

IHSS/PAC

- IHSS/PAC 800-179 – "Building 865 Drum Storage Area". The NFA for this IHSS will be submitted for approval in the 2001 HRR annual update.

  Building 865 had a drum storage area in room 145. The area later became a RCRA 90-day pad. This storage location held a maximum of 10 55-gallion drums. Drums stored there contained VOC compounds, beryllium, chlorinated solvents, and radioactive wastes. This IHSS was being studied as part of OU15. A visual inspection in November of 1986 showed no evidence of any spills or releases.

- IHSS/PAC 800-1203 – "Sanitary Sewer Line Break Between Buildings 865 And 886". This IHSS was approved as NFA in 1992.

  In June of 1982 construction crews broke the sanitary sewer line between Building 865 and B886. The sewage did not reach the Central Avenue ditch, therefore, it was considered to have no impact on the down stream ponds.

- IHSS/PAC 800-1204 – "Building 886 Spills". This IHSS is Active. Building held 5 waste process tanks that were used by Building 865 and B899. Two documented contamination releases from these tanks were documented.

  1986-Tank Overflow - Decontamination water from a sump in B889 waste pumped to the waste process tanks in building 866. These tanks overfilled and water passed through the vent on the roof where it drained to the ground through the downspouts. A similar incident occurred in 1983, but apparently the water ran into building 866 instead of outside.

  1986 – Tank Overflow – The filling of process waste tanks in building 866 resulted in an overflow of process waste through the roof vent and out the downspout releasing approximately 20 gallons to the ground. No contamination was found on the ground or in the building.

- IHSS/PAC 800-1210 – "Transformer 865-1 and 865-2". This IHSS was proposed NFA in the 1996 HRR annual up-date and is awaiting approval.

  Transformer 865-1 and 865-2 located west of Building 865 had leaked in the past. These transformers were retro-filled and placed on a new bermed pad just north of the old pad. The old pad was partially removed when installing the new pad.

- IHSS/PAC 800-1212 – "Building 866 Sump" This IHSS is active.

  During a walkdown, in April of 1992, a plant engineer noticed that the concrete sump inside the secondary containment system for the collection waste did not contain an epoxy coating. In addition there was approximately six inched of liquid/sludge in the sump. The liquid and sludge was sampled and found to contain elevated gross alpha and beryllium. The liquid in the sump was concluded to be from two sources 1) residual waste from the spills documented in PAC 800-1204 and 2) groundwater seepage into the sump and a potential pathway for contamination to the environment. The sump has since been sealed off with a steel plate with a glass window to monitor water levels in the sump.

14.0 865 Cluster Preliminary List of Potenial COCs

	Building 827	Building 865	Building C865	Building 866	Building 867	Building 868	TK 25	Tank 010
Asbestos	X	X	X	X	X	X		
Beryllium		X		X	X	X		
Lead								
Lead - paint	X	X		X	X	X	X	X
Lead - electrical equipment	X	X	X	X	X	X		
Lead-processes (storage, operations, wastes)								
Lead - shielding								
PCBs								
PCBs - paint	X	X		X	X	X	X	X
PCBs - equipment		X						
PCBs - ballasts	X	X		X	X	X		
VOAs		X		X				
Semi-VOAs	X	X		X				
Metals	X	X	X	X	X	X		
Radiological								
Pu								
U - 235				X				
U - 238		X		X	X	X		
U - 233								
Thorium								
Cobalt 60	X							

Note: This is a preliminary list of potential COCs based on a review of the historical processes, the HRR, the facility WSRIC and the interviews. The characterization SMEs should evaluate/verify this information and modify this list during building walkdowns and characterization package development.

Note: See facility WSRIC for additional information

Note: Lead in Paint will be managed in accordance with the RFETS Guidance Document 27 "Lead Based Paint (LBP) and LBP deposal".

15.0 Waste Volumes for the 865 Cluster Buildings and Tanks

Waste Volume Estimates and Material Types							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste
865	**77,700**	**0**	**1000**	**0**	**3600**	**200[1]**	**Urethane 20,000 cu ft**
827	**300**	**0**	**200**	**0**	**0**	**10[1]**	**0**
Building C865	**410**	**0**	**100**	**0**	**0**	**40[1]**	**Plastic 760 cu ft**
866	**525**	**0**	**200**	**0**	**0**	**TBD**	**Insulation 230 cu ft**
867	**1970**	**0**	**500**	**320**	**0**	**TBD**	**0**
868	**1970**	**0**	**500**	**230**	**0**	**TBD**	**0**
TK 25	**100**	**0**	**0**	**0**	**0**	**0**	**0**
Tank 010	**27**	**0**	**0**	**0**	**0**	**0**	**Aluminum 3 cu ft**

1 Volumes are estimates

Prepared By: Doug Bryant July 2001

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 865 Metallurgical Research and Development (non Pu)
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager, D&D Buildings 865, 883, and 886 clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883, and 886 clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Yes. All metallurgical examination and testing equipment has been removed from rooms 106 and 108. All equipment used to machine metals has been removed from room 136. All casting equipment has been removed from rooms 145 and 148. The Be electrorefining cell has been removed from room 151.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Removal of equipment that is not ventilated by the building exhaust system.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Equipment was used to move the process equipment and machine tools into boxes and cargo containers to be sent of site for disposal. Other equipment used was to decon under where items were removed.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
No. All radioactive material was removed from the building prior to the start of D&D activities. There was never any pure bata emitters used in the building.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Yes. Presently all R&D operations have been stopped and most equipment has been removed from the building. Only the large pieces of equipment that are attached to the ventilation system are in place.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Yes. BeCl was made in room 151B, transferred to a glovebox in room 151A to be used in the Be electrorefining cell. Acids, etching chemicals, and VOCs were used in the metallurgical examination rooms 106and 108. PCBs are in the light ballast's in the labs and office areas. There is a RCRA satellite accumulation area in room 145.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Yes. ACM is present in the floor tile and the insulation and on the steam lines and the heat treating furnaces.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? No. Decontamination activities that are being preformed in the building relate to deconing of residual contamination that was under removed equipment.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? The areas underneath where the machining equipment sat in room 136 were decontaminated, as was the floor of the room to the standards of the day.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. How much contamination remains in the pits under the large equipment that remains in the building and what is the integrity of the pits? Are there cracks in the concrete and if so has contamination migrated under the building?

Prepared By: Dean Burton / Dean Burton / 04/19/01

Print Name Signature Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 865 Metallurgical Research and Development (non Pu)
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
James Norris, High Bay Forman, Oversaw daily operations of the high bay when the building was operational.

What time frame did the interviewee work in the facility? What was his/her function(s)?
From 1970 to 1988. Oversaw the daily operations of the high bay when the building was operational.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Yes. Classified manufacturing parts storage addition was built onto the building, Be electrorefining room was added, isostatic presses were installed in the building, the original extrusion press was removed and a new one installed, and the exhaust ventilation system was upgraded.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Casting of metals and alloys, forming of the cast metals and alloys into various shapes, and machining of these shapes into parts. Metallurgical testing and examination of samples of work performed in the high bay and machine shop.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Casting furnaces, rolling mills, forging hammer, shears, extrusion press, swaging machines, drawing die machines, isostatic presses, heat treating furnaces, salt baths, and hydrospinning located in room 145. Be electrorefining in room 151. Machining of parts in room 136. Metallurgical examination and testing of samples in rooms 106 and 108 from operations carried out in rooms 145and 136.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Depleted uranium feed ingots were used as starting material for all operations in the high bay, room 145. Depleted uranium samples were examined and tested in rooms 106 and 108.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Yes. All operations conducted in the building were research and development and were conducted in rooms 136, 144, 145, 148, 151, 153, 172, 106 and 108.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Yes. Be metal was cast in room 145, machined in room 136, examined metallurgically in rooms 106 and 108, and electrorefined in room 151. RCRA/CERCLA constituents are unknown. PCBs are in the ballasts for the lights.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Yes. The floor tiles contain asbestos, the insulation on the steam lines is asbestos and the furnace insulation is asbestos. It is unknown if the hydraulic systems contain PCB. One transformer for the extrusion press contains PCB.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Oxides of uranium from forming operations could have deposited on the floor and under equipment.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Yes, to the best extent possible using methods and cleaning solutions to the standards of the day.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None that are known of at this time.

Prepared By: Dean Burton (Print Name) / Dean Burton (Signature) 10/11/01 (Date)

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 866 Liquid Waste Storage
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager, D&D of Buildings 865, 883, and 886 Clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883 and 886 Clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Yes. The two stainless steal tanks that received waste from Building 889 have been removed.

What operations/processes were conducted in the building during the interviewee's time in the facility?
None. The building operations have been shut down, and the remaining three tanks are RCRA empty.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
The building had five waste receiving tanks and two pumps, located in its one room, for circulating the waste liquids and transferring the waste to waste processing in Buildings 774 or 374. The three tanks that remain are made of fiberglass, and the two that were removed were stainless steel.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Yes. Depleted uranium solutions were put into the tanks. No pure beta emitter wastes were ever put into the tanks.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
None. But Building 865, an R&D building, is located approximately 40 feet to the east.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Yes. Be solutions were sent to the three remaining tanks in the building. There could have been Be metal fines in the solutions sent to these tanks. The three remaining tanks are RCRA empty but not RCRA closed.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? There could be ACM material in the insulation on the steam pipes in the building. PCBs could be in the paint used to paint the building.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? No, none during the interviewee's association with the building. Spills may have occurred before the interviewee was associated with the building.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? No spills/releases were cleaned up during the interviewees association with this building.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. It is not known how or if the waste lines coming from Building 889 were sealed off when that building was taken down.

Prepared By: Dean Burton / Dean Burton / 04/19/01

Print Name / Signature / Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 867 Ventilation Exhaust Plenum (west)
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager, D&D of Buildings 865, 883, 886

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883 and 886 Clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
No. The building configuration has not changed, and no renovations have been made to the building.

What operations/processes were conducted in the building during the interviewee's time in the facility?
The building is the exhaust filter plenum for the general room air in the high bay, room 145, and equipment on the west side of the building.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
There are two exhaust fans in the building, and they are operated such that one is always in operation, The fans are located in the fan room on the west side of the building. Two HEPA filter banks filter the air exhausting Building 865.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Yes. The HEPA filters are contaminated with depleted uranium from the air coming from Building 865. The inlet plenum and exhaust ducts leading to the plenum are contaminated. There are no pure beta emitters in the plenum, as Building 865 did not handle them.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
No R&D was conducted in the plenum, but it exhausted air from Building 865, which was a metallurgical R&D building.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Yes. Beryllium and uranium particles were in the air exhausted from Building 865. These particles contaminated the inlet ducts, plenum and the filters. The paint inside and outside the building may contain PCB.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? The building is posted as possibly containing asbestos.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? None. No spills or releases occurred while the interviewee was associated with this building.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? No spills/releases needed to be cleaned up or mitigated during the interviewees association with this building.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. The beryllium and depleted uranium contamination inside the plenum.

Prepared By: _____ / Dean Burton _____ 10/19/01

Print Name Signature Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 868 Ventilation Exhaust Plenum (east)
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager, D&D of Buildings 865, 883, 886

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883 and 886 Clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
No. The building configuration has not changed, and no renovations have been made to the building.

What operations/processes were conducted in the building during the interviewee's time in the facility?
The building is the exhaust filter plenum for equipment in the high bay, room 145, and the machine shop, room136, of the building.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
The building is the exhaust filter plenum for equipment in the machine shop and the center and east side of the high bay of Building 865.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Yes. The HEPA filters are contaminated with depleted uranium from the air coming from Building 865. The inlet plenum and exhaust ducts leading to the plenum are contaminated. There are no pure beta emitters in the plenum, as Building 865 did not handle them.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
No R&D was conducted in the plenum, but it exhausted air from Building 865, which was a metallurgical R&D building.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Yes. Beryllium particles were in the air exhausted from Building 865. These particles contaminated the inlet ducts, plenum and the filters. The paint inside and outside the building may contain PCBs.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? The building is posted as possibly containing asbestos.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? None. No spills or releases occurred while the interviewee was associated with this building.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? No spills/releases needed to be cleaned up or mitigated during the interviewees association with this building.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. The beryllium and depleted uranium contamination inside the plenum.

Prepared By: _____ / Dean Bunt / 04/19/01

Print Name | Signature | Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 827 Emergency Generator
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager, D&D of Buildings 865, 883, 886 clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883, and 886 clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
None. The building configuration has not changed and no renovations have been made to the building.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Building supplies emergency power to Buildings 865, 883, and 886

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
One diesel driven electric generator and necessary switchgear to operate the equipment if it did not start automatically.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Not during the interviewees association with the building.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
None. R&D activities were conducted in building 865 approximately 40 feet to the east of Building 827.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
PCBs could be in the paint on the building. Battery acid and used lead batteries were handled in the building.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? There may be ACM in the insulation on the exhaust system from the diesel engine.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? None. There were no spills or releases in this building as it did not handle radioactive material or chemicals.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? There were no spills/releases in this building.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? The concrete floor of the building was not painted and has become heavily stained with diesel fuel and motor oil.

Prepared By: Dean Burton / Dean Burton / 04/19/01

Print Name | Signature | Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building C865 Cooling Tower
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager, D&D of Buildings 865, 883, 886 clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883, and 886 clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
No.

What operations/processes were conducted in the building during the interviewee's time in the facility?
The cooling tower is out of service.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
A fan is situated on top of the tower for inducing a draft up through the tower for cooling the tower water. The tower water was circulated through the tower to a heat exchanger in Building 865 by an electric pump located north of the tower. The tower is located about 10 feet west of Building 865.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
No. No radioactive materials were used or stored near the cooling tower.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
No R&D done in this facility but Building 865 was an R&D facility.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Yes. Until 1992 chemicals were added to the water to control the $_{p}$H and algae growth. Residual amounts may be in the water in the tower. What chemicals were used is unknown.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Yes, Transite was used in the construction of the end panels and louvers of the tower. No PCBs are in the tower.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? None at the cooling tower but spills occurred at Building 866, which is 20 feet to the north.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Not applicable. No spills/releases were cleaned up during the interviewees association with this building.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None that are known of at this time.

Prepared By: Dean Burton (Print Name) | Dean Burton (Signature) | 10/19/01 (Date)

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: 863 Transformer and Switchgear
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager , D&D of Buildings 865, 883, 886 clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883, and 886 clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
No. The building configuration has not changed.

What operations/processes were conducted in the building during the interviewee's time in the facility?
No operations as the building operations are closed and the power is shut off.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
There is a 13.8 kV transformer on a pad to the south of the building and a bus bar running into the building. The building contains electric switchgear for the extrusion press in Building 865.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
None. No radioactive materials were handled in the building.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Yes. Building 865was a R&D building.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
None. The transformer is a non PCB oil transformer.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? There may be asbestos in the switchgear in the building.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? None. The building did not handle any radioactive material or chemicals.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? No spills/releases needed to be cleaned up.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None known of at this time.

Prepared By: Dean Burton / Dean Burton / 04/19/01

Print Name | Signature | Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank TK25 Diesel Fuel Storage Tank (above ground)
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager, D&D Buildings 865, 883, 886 clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883, and 886 clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
No. Tank supplies diesel fuel to the emergency generator in Building 827.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Tank supplies diesel fuel to the emergency generator in Building 827.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
No equipment is associated with this tank.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
None. This tank only stored diesel fuel in it.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Yes. Building 865 is an R&D building located about 50 feet to the east.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
No, only diesel fuel was stored in the tank.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? None.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? None. No radioactive spills occurred in the area of the tank.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Not applicable. No radioactive spills occurred in the area of the tank.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None that are known of at this time.

Prepared By: Dean Burton / Dean Burton / 04/19/01

Print Name / Signature / Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank 026 CO_2 Deluge Tank
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager , D&D of Buildings 865, 883, 886 clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883, and 886 clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
No. The tank was drained and locked out of service before the interviewee became associated with this tank.

What operations/processes were conducted in the building during the interviewee's time in the facility?
None. The tank was drained and locked out of service before the interviewee became associated with this tank.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
The tank is cylindrical in shape approximately 15 feet long and 5 feet in diameter with a 6 ton capacity of CO2 located approximately 15 feet southeast of Building 865.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
No. No radioactive materials or sources were stored or used near this tank.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Building 865 an R&D building is located approximately 15 feet to the northwest.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? None. Only CO_2 gas was stored in it.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? None.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Not applicable. No radioactive materials were stored or handled near this tank.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Not applicable. No radioactive materials were stored or handled near this tank.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None that are known of at this time.

Prepared By: Dean Burton (Print Name) / Dean Burton (Signature) 10/19/01 (Date)

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank 024 Propane Tank (removed)
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager, D&D Buildings 865, 883, and 886 clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883, and 886 clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Not applicable. This tank was removed before interviewee became associated with this tank.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Not applicable. Tank was removed before interviewee became associated with this tank.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Not applicable. This tank was removed before interviewee became associated with this tank.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Not applicable. This tank was removed before interviewee became associated with this tank.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Not applicable. This tank was removed before interviewee became associated with this tank.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Not applicable. This tank was removed before interviewee became associated with this tank.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Not applicable. This tank was removed before interviewee became associated with this tank.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Not applicable. This tank was removed before interviewee became associated with this tank.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Not applicable. This tank was removed before interviewee became associated with this tank.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None. This tank has been removed from area and is to be sold.

Prepared By: Dean Burton (Print Name) / Dean Burton (Signature) / 04/19/01 (Date)

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank 252 Argon Tank (removed)
Anticipated Facility Type (1, 2, or 3):

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Jerry Anderson, Project Manager , D&D of Buildings 865, 883, 886 clusters

What time frame did the interviewee work in the facility? What was his/her function(s)?
Jerry worked here from 2000 to 2001 as Project Manager for D&D of Buildings 865, 883, and 886 clusters.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Not applicable. This tank was removed before interviewee became associated with this tank.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Not applicable. This tank was removed before interviewee became associated with this tank.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Not applicable. This tank was removed before interviewee became associated with this tank.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Not applicable. This tank was removed before interviewee became associated with this tank.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Not applicable. This tank was removed before interviewee became associated with this tank.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Not applicable. This tank was removed before interviewee became associated with this tank.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Not applicable. This tank was removed before interviewee became associated with this tank.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Not applicable. This tank was removed before interviewee became associated with this tank.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Not applicable. This tank was removed before interviewee became associated with this tank.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Not applicable. This tank was removed before interviewee became associated with this tank.

Prepared By: Dean Burton / /Dean Burton/ 10/19/01

Print Name Signature Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 865 Metallurgical Research and Development (non Pu)
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted] Building Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted] Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has concerns about contamination of the building due to the handling of depleted uranium. Mr. Link indicated that he had no concerns with beta emitters in Building 865. Mr. Link did indicate that sealed sources with Cobalt 60 were used to calibrate beta detection instruments in Building 865. In addition, Mr. Link noted that there is a possibility that cobalt 60 may be in the depleted uranium in the ppb level, since the depleted uranium could have come from reactors.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Richard Link has concerns about contamination of the building due to the handling of beryllium in the building.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Yes. All operations that involved the working of depleted uranium in a form that had the potential of large quantities of oxide flaking from the surface could have caused uncontrolled releases in the area of the operation.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Yes they were cleaned up or mitigated using the cleaning compounds and methods to the standards of the day.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. The beryllium and depleted uranium contamination in the high bay that might be extensive.

Prepared By: Dean Burton (Print Name) | Dean Burton (Signature) | 10/24/01 (Date)

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 866 Liquid Waste Storage
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted] Building Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted] Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Waste solutions contaminated with low levels of depleted uranium and beryllium were transferred to the tanks in the building for eventual transfer to Buildings 774 or 374 for treatment. Mr. Link indicated that he had no concerns with beta emitters in Building 866. In addition, Mr. Link noted that there is a possibility that cobalt 60 may be in the depleted uranium in the ppb level, since the depleted uranium could have come from reactors.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Waste solutions transferred to this building may have contained low levels of beryllium fines or chemical compounds in the tanks.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Yes. Unknown quantities of liquid flowed out the tank vents, went onto the roof, and down to the ground.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Using detection instrumentation of the day, if the spills were above discharge limits, the spills were cleaned up.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. There were tank overflows that went out of the tanks and onto the roof of the building and down onto the ground. The roof and the ground around the downspout will have to be sampled for depleted uranium and beryllium. The detection equipment used to clean up the spills do not meet today's standards, therefore, the ground and building might be contaminated under today's standards.

Prepared By:	Dean Burton	Dean Burton	04/18/01
	Print Name	Signature	Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 867 Ventilation Exhaust Plenum (west)
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted], Building Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted] Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
The building is the air filtration building for the Building 865 system for the west side of the building and will contain low levels of depleted uranium.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
The building is the air filtration building for the Building 865 system for the west side of the building and will contain low levels of beryllium and any chemicals that could have been used in the chemical hoods on the west side of Building 865.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Spills or uncontrolled releases of depleted uranium and beryllium could have been released in the airlock during filter changes.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? The spills were cleaned up to the standards of the day.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. As the building is the ventilation exhaust for the high bay and its equipment it is contaminated with depleted uranium and beryllium and possibly chemicals from the hoods in the high bay.

Prepared By: Dean Burton / Dean Burton / 04/24/01

Print Name Signature Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 868 Ventilation Exhaust (east)
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted] RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted] Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
The building is the air filtration building for the Building 865 system for the east side of the building and will contain low levels of depleted uranium.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
The building is the air filtration building for the Building 865 system for the east side of the building and will contain low levels of beryllium.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Spills or uncontrolled releases of depleted uranium and beryllium could have been released in the airlock during filter changes.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? The spills were cleaned up to the standards of the day.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. As the building is the ventilation exhaust for the high bay and its equipment it is contaminated with depleted uranium and beryllium.

Prepared By: Dean Burton (Print Name) / Dean Burton (Signature) 10/24/01 (Date)

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 827 Emergency Generator Building
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted], Building Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted] Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has no comments or concerns.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Richard Link has no comments or concerns.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Richard Link has no comments or concerns.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Richard Link has no comments or concerns.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. As the equipment in the building was maintained by Building 865 maintenance personnel, they could have inadvertently carried low levels of contamination into the building. Also due to its proximity to two buildings, Buildings 883 and 865, that handled beryllium and uranium, it will have to be sampled for Be and U.

Prepared By: Dean Burton / Dean Burton / 04/24/01

Print Name / Signature / Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building 863 Transformer and Switchgear
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted] RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function
[redacted], Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has no comments or concerns.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Richard Link has no comments or concerns.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present) Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Richard Link has no comments or concerns.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Richard Link has no comments or concerns.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. As the equipment in the building was maintained by Building 865 maintenance personnel they could have inadvertently carried low levels of contamination into the building. Also due to its proximity to two buildings, Buildings 883 and 865, that handled beryllium and uranium it will have to be sampled for Be and U.

Prepared By: Dean Burton (Print Name) / Dean Burton (Signature) 1 04/24/01 (Date)

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Building C865 Cooling Tower
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted] Building Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted] Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has no comments or concerns.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Richard Link has no comments or concerns.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Richard Link has no comments or concerns.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent Richard Link has no comments or concerns.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. As the equipment in and on the cooling tower was maintained by Building 865 maintenance personnel they could have inadvertently carried low levels of contamination into the building. Also due to its proximity to two buildings, Buildings 883 and 865, that handled beryllium and uranium it will have to be sampled for Be and U.

Prepared By: Dean Burton / Dean Burton / 10/24/09

Print Name Signature Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank 026 CO_2 Deluge Tank
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted], Building Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted]
Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has no comments or concerns.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Richard Link has no comments or concerns.
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Richard Link has no comments or concerns.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Richard Link has no comments or concerns.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. As the tank was maintained by Building 865 maintenance personnel they could have inadvertently carried low levels of contamination to the tank. Also due to its proximity to two buildings, Buildings 883 and 865, that handled beryllium and uranium it will have to be sampled for Be and U.

Prepared By: Dean Burton / Dean Burton / 10/24/01

Print Name / Signature / Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank TK25 Diesel Fuel Storage Tank
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted], Building Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted] Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has no comments or concerns.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Richard Link has no comments or concerns.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Richard Link has no comments or concerns.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Richard Link has no comments or concerns.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes. Due to its proximity to two buildings, Buildings 883 and 865, that handled beryllium and depleted uranium it will have to be sampled for Be and U.

Prepared By: Dean Burton (Print Name) / Dean Burton (Signature) / 10/12/04 (Date)

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank 024 Propane Tank (removed)
Anticipated Facility Type (1, 2, or 3):1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted] Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted] Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has no comments or concerns.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Richard Link has no concerns in this area
Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Richard Link has no comments or concerns.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Richard Link has no comments or concerns.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None. Tank has been released under a PRE form.

Prepared By: Dean Burton / Dean Burton / 10/12/09

Print Name Signature Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank 010 Diesel Fuel Storage (closed)
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted], Building Closure Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted], Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has no comments or concerns.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Richard Link has no comments or concerns.

D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Richard Link has no comments or concerns.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Richard Link has no comments or concerns.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None as the tank is RCRA closed.

Prepared By: Dean Burton / Dean Burton / 04/24/01

Print Name | Signature | Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: Tank 252 Argon Tank (removed)
Anticipated Facility Type (1, 2, or 3): 1

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
[redacted] Support, RISS Closure Support, PU&D Radiological Support

What time frame did the interviewee work in the facility? What was his/her function(s)?
[redacted], Industrial Hygiene Technician and Health Physicist.

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?
Richard Link has no comments or concerns.

What operations/processes were conducted in the building during the interviewee's time in the facility?
Richard Link has no comments or concerns.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
Richard Link has no comments or concerns.

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Richard Link has no comments or concerns.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Richard Link has no comments or concerns.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Richard Link has no comments or concerns.

D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Richard Link has no comments or concerns.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? Richard Link has no comments or concerns.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? Richard Link has no comments or concerns.
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? None as the tank has been removed before the building D&D had started.

Prepared By: Dean Burton / Dean Burton / 04/24/01

Print Name Signature Date

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D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Facility ID: 865 Cluster
Anticipated Facility Type (1, 2, or 3): 2

This facility specific Historical Site Assessment (HSA) - Interview Checklist has been conducted in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Personnel Interviewed (Name, Title, and Function)
Gary Konwinski, Facility Manager – Responsible for all building activities

What time frame did the interviewee work in the facility? What was his/her function(s)?
1998 to 2001

Has the building configuration changed since you worked in the building (e.g., rooms & equipment)? Have there been any building renovations? If so, in what way?

No, I was responsible for removing all residents from the buildings

What operations/processes were conducted in the building during the interviewee's time in the facility?
Property and equipment removal (approximately 14,000 items) Waste packing of about 800,000 pounds, oil draining of all equipment (7,000 gallons). Electrical disconnects of all non-essential equipment (about 100 items). Removal of 100 legacy waste containers.

What types of equipment were used, and where was the equipment located? (specific rooms/areas)
N/A

Were any radioactive materials or equipment handled in the building (e.g., wastes, residues, product, feed material, sealed radioactive sources)? If so, what types and where?
Yes, depleted uranium was the isotope. I did a study in 1998? That verified the only isotope in the building was depleted uranium. There is a characterization letter to this affect in the building file.

Were there any Research & Development area (past or present) located in the facility or area? If so, where?
Yes, B865 was an R&D shop, both CA and non-CA areas.

Were any chemicals (e.g., Beryllium, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where?
Yes, beryllium was located throughout the entire building and its use is well documented. All elemental beryllium has been removed with the exception of residual "dust". Several RCRA waste streams were managed in the building, all of which have been removed. To my knowledge there is no residual remaining.

D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist

Were there any Asbestos Containing Materials (e.g., transite wall board, ceiling tiles, floor tile), lead shielding, equipment utilizing PCB oils (e.g., process equipment, lifts, hydraulic systems, etc.), or any other chemical hazards (past or present)? Yes, floor tiles and pipe insulation. Ceiling tiles were sampled and found to be non-ACM. They were and waste packed accordingly. No lead shielding, but lead used for press ballast. This lead was waste packed and removed from the building. One transformer was known to contain PCBs. It was removed from the building and recycled. Approximately 7,000 gallons of oil were drained from the presses, and forming machines in the building. None was found to contain PCBs.
Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types, quantities, and where? There was a "flow" of the sprinkler system on September 13, 1999. This event released about 3,000 gallons of water into the CA. Clean-up efforts took place that day, through the night, and into the next day. Water was containerized and allowed to evaporate. Waste containers were waste packed.
Were these spills/releases cleaned up or mitigated? If so, how, and to what extent? See above
Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes, due to the beryllium contamination in the building, the floors, walls, low ceilings, and machinery were constantly being vacuumed (wet and or dry). When I left the building, the CA and non-CA areas were Clean Clean Clean.

Prepared By: Duane Parsons / [signature] / 5/31/01

Print Name / Signature / Date

ATTACHMENT C

Radiological Characterization Package

Rocky Flats Environmental Technology Site

RECONNAISSANCE LEVEL CHARACTERIZATION

RADIOLOGICAL CHARACTERIZATION PLAN (PACKAGE)

865 CLUSTER CLOSURE PROJECT (Buildings: 865, 866, 867, & 868)

REVISION 1

July 17, 2001

Prepared by: _____ Date: 7/17/01
Jay Britten, Radiological Engineer

Reviewed by: _____ Date: 7/17/01
Duane Parsons, Facility Characterization Coordinator

Reviewed by: _____ Date: 7/18/01
Steve Luker, Quality Assurance

7/19/01

Approved by: _____ Date: 7/18/01
Kent Dorr, Closure Project Manager

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RLC Radiological Characterization Plan (Package)
865 Cluster
(Buildings: 865, 866, 867 and 868)

* This characterization package was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols, and Appendix D, Reconnaissance Level Characterization Plan for D&D Facilities, latest versions.

* RLCP Data Quality Objectives were used to develop this characterization package.

* Some interior facility characterization data of 865 already exists, only RLC data gaps are specified in this characterization plan. The RLCR will report both existing data and newly acquired RLC data, as necessary. Interior facility characterization surveys of 866, 867 and 868 will be obtained. Exterior facility characterization surveys of the 865 Cluster will be obtained by the D&D Program Office as part of a site-wide Technical Basis Document development effort. The 865 Cluster exterior facility characterization survey results will also be reported in the 865 Cluster RLCR.

* It is assumed that all facility systems are potentially contaminated and will be disposed of as LLW or LLMW, and will not affect the facility typing determination. Therefore, only exterior surfaces of facility system piping, ducting, conduit, plenums, equipment, etc. will be considered during the RLC.

* It is assumed that all painted surfaces in potential MARSSIM Class 1 and Class 2 PDS survey areas will either be stripped or disposed of as LLW or LLMW during in-process D&D work. Therefore, media and volumetric sampling will not be considered during the RLC.

* Only facilities that are anticipated to be Type 2 facilities were considered in this RLC Plan. Anticipated Type 1 facilities (i.e., B827, C865 and Tank 25) will be characterized as part of the Pre-demolition Survey Plan for the cluster.

Instructions:

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP requirements, if applicable.
5. Comply with facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.

WARNING

Confined space entry is NOT authorized during the performance of this plan (package).

7. Follow applicable characterization and sampling procedures.
8. Have D&D craft perform the following, as required:
* Lift deck grating and access covers to assist in obtaining samples in trenches, pits & sumps. Use forklift with approved lift attachment, as necessary.
* Cut (using sawsall) deck grating and access covers, if necessary, to assist in obtaining samples in trenches, pits & sumps.
* Assist in accessing ventilation ducts for sampling, including removal of duct tape over the ends of ventilation pipes and entry into fan plenum(s).

9. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.

10. Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal.

11. Collect and maintain all characterization paperwork in the Project File(s).

12. All radiological surveys shall be conducted in accordance with the sampling and instruction forms included in 865 Cluster Survey Area Packages. Sample locations are denoted on maps attached to each survey area package.

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RLC Radiological Characterization Plan (Package)
865 Cluster
(Buildings: 865, 866, 867 and 868)

Non-Contamination Areas, Buffer Areas, and RMAs

Survey Area	Description	Floor m^2	Scan m^2	TSA	Smears	Media
A	Interior of 866	40	30	70	70	N/A
B	Interior of 867, Plenum Auxillary Room	86	30	70	70	N/A
C	Interior of 868, Plenum Auxillary Room	56	30	70	70	N/A
	Totals	182	90	210	210	0

RLC Radiological Characterization Plan (Package)
865 Cluster
(Buildings: 865, 866, 867 and 868)

Contamination Areas and Fixed Contamination Areas

Survey Area	Description	Floor m^2	Scan m^2	TSA	Smears	Media
E	B865 Tenches, Sumps, Pits, Fume Hoods	< 1000 m^2	30	30	30	N/A
	Totals	< 1000 m^2	30	30	30	0

Radiological Characterization Package
Building 865 Exterior Surveys

Class 3 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA (α & β)	Smears (α & β)	Media	Class Justification
NA	865001	3	North one-story section 865 roof.	1142	NA	57	17-random 2-QC	17-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
NA	865002	3	North one-story section 865 walls.	481	NA	24	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
NA	865003	3	North third of two-story section 865 roof.	718	NA	36	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
NA	865004	3	Center third of two-story section 865 roof.	718	NA	36	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
NA	865005	3	South third of two-story section 865 roof.	718	NA	36	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.

NA	865006	3	Bldgs 827, 866, 867, 868 & tank exteriors.	454	NA	23	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
NA	865007	3	Bldgs 867 & 868 (plenums) exteriors.	952	NA	48	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
NA	865008	3	865 north & south facing walls.	1200	NA	60	18-random 2-QC	18-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
NA	865009	3	865 east facing walls.	648	NA	32	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
NA	865010	3	865 west facing walls.	751	NA	38	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.

NA	865012	3	865 east addition exterior.	415	NA	21	15-random 2-QC	15-random	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination.
			Class 3 Totals	**8197**	**0**	**409.85**	**130**	**130**	**0**	
All Class Areas			**All Class Totals**	**8197**	**0**	**409.85**	**130**	**130**	**0**	

FF

ATTACHMENT D

Chemical Characterization Package

Rocky Flats Environmental Technology Site

RECONNIASSINACE LEVEL CHARACTERIZATION

CHEMICAL CHARACTERIZATION PLAN (PACKAGE)

865 CLUSTER CLOSURE PROJECT

(Buildings: 865, 866, 867 and 868)

REVISION 1

July 18, 2001

Prepared by: _____ **Date:** 7/18/01
David Babbs, Industrial Hygiene

Prepared by: _____ **Date:** 071801
Matt Shafer, Environmental Compliance

Reviewed by: _____ **Date:** 7/18/01
Steve Luker, Quality Assurance

Reviewed by: _____ **Date:** 7/18/01
Duane Parsons, Characterization Coordinator

7/19/01

Approved by: _____ **Date:** 7/19/01
Kent Dorr, KH Closure Project Manager

DAP 7/24/01

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RLC CHEMICAL CHARACTERIZATION PLAN (PACKAGE)

BUILDING(s): 865, 866, 867, and 868

Assumptions and Notes:

- This characterization package was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols, and Appendix D, Reconnaissance Level Characterization Plan for D&D Facilities, April 23, 2001.
- RLCP Data Quality Objectives were used to develop this characterization package.
- Data already exists for some contaminates of concern, only RLC data gaps are specified in this characterization plan. If areas are discovered during the removal plates, covers, etc. as the RLC progresses, these areas will be sampled as required. The 865 Cluster RLCR will report both existing data results and newly acquired RLC data results.
- Components of RCRA Units were not considered within the scope of this RLC Plan since they are covered under the RCRA Closure Program. All RCRA permitted units in B865 have been characterized by the permitting process (i.e., approved waste codes). All RCRA units that have not been previously closed, will be closed in accordance with closure requirements specified in the Closure Plan, Section X, of the RCRA Part B Permit, which are also delineated in the RFCA RSOP for Component Removal, Decontamination and Size Reduction. Therefore, no additional chemical sampling is required for characterization of RCRA units and their components.
- It is assumed that demolition debris will either be disposed of as PCB Bulk Product Waste or sampled during in-process characterization once site protocols are established based on current discussions with the Lead Regulatory Agencies concerning Building 111. Therefore painted concrete surfaces will not be sampled for PCBs in paint during the RLC. If it is later determined that concrete demolition debris will be used for onsite recycled fill material, then additional PCB sampling will take place during in-process characterization.
- Lead sampling is not required in the 865 Cluster. All paint will remain a part of the infrastructure during demolition and therefore does not require sampling per Environmental Waste Compliance Guidance No. 27, Lead Based Paint (LBP) and LBP Debris Disposal. Sampling for lead for IH requirements will be at the discretion of the demolition contractor.
- It is assumed that all potential materials that could contain ACM in B865 do contain ACM, therefore no additional asbestos sampling will be performed in B865.
- It is assumed that all facility systems are potentially contaminated and will be disposed of as LLW or LLMW and will not affect the facility typing determination. Therefore, only exterior surfaces of facility system piping, ducting, conduit, plenums, equipment, etc. will be considered during the RLC.
- Only facilities that are anticipated to be Type 2 facilities were considered in this RLC Plan. Anticipated Type 1 facilities (i.e., B827, C865, and Tank 25) will be characterized as part of the Type 1 facility RLC/PDS effort later in the project schedule.

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Instructions:

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP and Beryllium Work Form (BWF) requirements, if applicable.
5. Comply with facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.

WARNING
Confined space entry is NOT authorized during the performance of this plan (package).

7. Follow applicable characterization and sampling procedures.
8. Have D&D craft perform the following, as required:
   - Lift deck grating and access covers to assist in obtaining samples in trenches, pits and sumps. Use forklift with approved lift attachment, as necessary.
   - Cut (using sawsall) deck grating and access covers, if necessary, to assist in obtaining samples in trenches, pits & sumps.
   - Assist in accessing ventilation ducts for sampling, including removal of duct tape over the ends of ventilation pipes and entry into fan plenum(s).
9. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.
10. Coordination with the Environmental Restoration Program organization will be required to further characterize soils around and underneath facility foundations and slabs prior to removal.
11. Collect and maintain all characterization paperwork in the Characterization Closure Project File(s), and all electronic data in the appropriate D&D RISS subdirectory.

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ASBESTOS		
Sample Location	**Number of Samples**	**Sample location and justification/rational**
865	0	It is assumed that all potential materials that could contain asbestos in 865 do contain asbestos, therefore no additional asbestos sampling will be performed in 865.
866, 867 and 868	2	In Buildings 867 and 868, no building materials suspected of containing asbestos were located. These buildings are constructed of concrete pads & footers with a steel I-beam skeleton. The walls and roof are composed of corrugated metal with fiberglass batt insulation. The air handling units have rubber expansion joints. No thermal systems insulation or spray-on surfacing materials were observed. Therefore, no asbestos bulk samples were taken. Building 866 has the following suspected asbestos containing building materials: corrugated, transite panels that form two external, protective walls at the entry to the building (88 sf); and above the double-door entry are (13) hard fittings (<6" OD) and 2-runs of steam and condensate piping (<6" OD) with fiberglass insulation and a white canvas covering. These steam lines enter from the top of the north wall. One core asbestos sample was taken from a condensate fitting, and one sample was taken of the canvas wrap.
Total Samples:	2	Sample locations are specified on sample maps during characterization efforts. Samples were obtained in accordance with PRO-653-ACPR, Asbestos Characterization Procedure and 40 CFR 763.

BERYLLIUM		
Sample Location	**Number of Samples (smears)**	**Sample location and justification/rational**
865	30	There is sufficient supporting sample data and process history that proves beryllium was used, stored and contained in this building. Hundreds of samples have already been collected throughout the facility, both random and biased. Therefore, only a limited number of biased sampling will be collected to further characterize data gaps in areas that are lacking supporting sample data such as trenches, pits, and sumps.
866, 867 and 868	21	There is sufficient process history that proves beryllium was used, stored and contained in these buildings. Therefore, random samples will be obtained at locations specified on the sample maps.
Total Samples:	51	Samples will be obtained at locations specified on sample map(s) in accordance with PRO-536-BCPR, Beryllium Characterization Procedure. Biased sample locations will correspond with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition.

RCRA/CERCLA CONSTITIUENTS		
Sample Location	**Number of Samples**	**Sample location and justification/rational**
B865 Room 145	1 liquid sample	Based on historical process information, no unremediated spills have occurred, and visual observations revealed only one sample location: the grate covered trench located in the east central portion of Room 145 (north of Room 145A) which contained used machinery oil. The trench oil was pumped out into two 55-gallon drums. No sludge was present in the trench after the used oil was removed; therefore, no sludge sample could be collected. An RLC sample of the used oil was collected from one of the 55-gallon drums and analyzed for all toxicity characteristic contaminates (40 CFR 261.24, Table 1). No other RLC sampling locations were identified in B865 at this time. However, not all areas were accessible for inspection (e.g., floor pits and trenches in B865 that are currently covered with steel plating) and will therefore be evaluated for characterize during the steel plate removal activities for radiological RLC efforts.
B866, B867 and B868	0	Based on historical process information, no unremediated spills are known to have occurred in these buildings and visual observation of accessible areas indicated no evidence of spills (e.g., staining). Therefore, no RLC sampling locations were identified in these buildings at this time.
Total Samples:	1	Samples will be obtained at locations specified on sample map(s) in accordance with PRO-488-BLCR, Bulk Solids and Liquids Characterization Procedure. Samples shall be analyzed for all toxicity characteristic contaminates (40 CFR 261.24, Table 1).

PCBs		
Sample Location	**Number of Samples**	**Sample location and justification/rational**
865 Cluster	0	Based on historical process information, no unremediated PCB spills have occurred in these buildings and visual observation of accessible areas indicated no evidence of spills (e.g., staining). However, as a precautionary measure, the oil sample described above (RCRA/CERCLA constituents) will also be sampled for PCBs.
Total Samples:	0	

* PCB ballasts, fluorescent light bulbs, potential mercury switches in thermostats, and mercury vapor light bulbs will be identified and removed prior to demolition.

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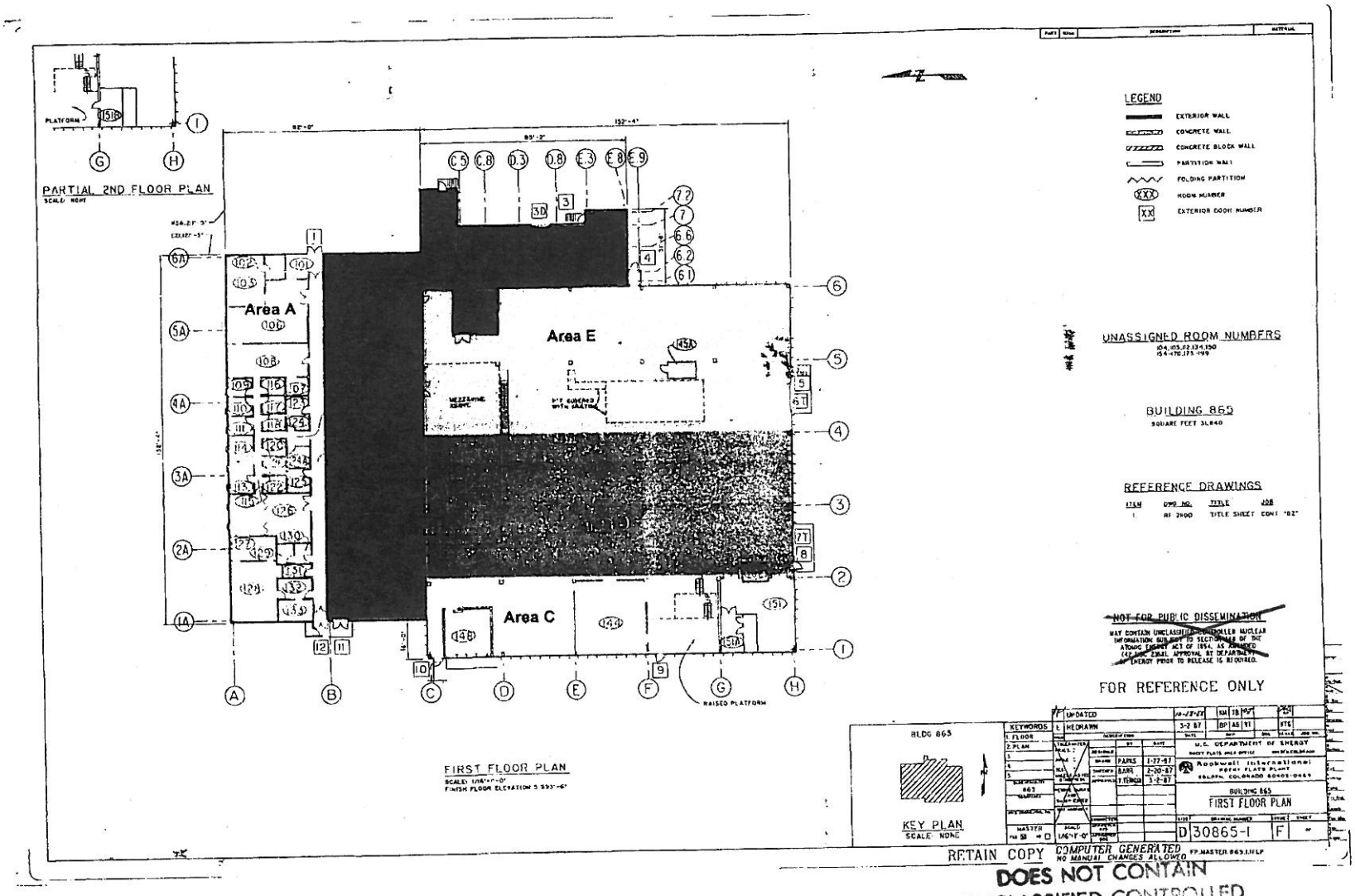
ATTACHMENT E

Radiological Data Summaries and Survey Maps



DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION

Reviewing Official: J. A. NESHEIM
EM/BC Class'n Name Office
Date: 10-13-08

Table E-1 B865 Radiological Data Summary, MSC Data, Upper Walls and Ceiling >2 meters

SURVEY AREA	A	B	C	D	E
Alpha TSAs					
Number of Alpha TSA Samples:	304	695	385	329	529
Minimum Alpha TSA Value (dpm/100cm^2):	0	0	0	0	0
Maximum Alpha TSA Value (dpm/100cm^2):	56	278	228	228	156
Number of Alpha TSA Samples >5000 dpm/100cm^2:	0	0	0	0	0
Number of Alpha TSA Samples >500,000 dpm/100cm^2:	0	0	0	0	0
Beta TSAs					
Number of Beta TSA Samples:	304	695	385	329	529
Minimum Beta TSA Value (dpm/100cm^2):	0	0	0	0	0
Maximum Beta TSA Value (dpm/100cm^2):	2,061	1,445	1,455	133	233
Number of Beta TSA Samples >5000 dpm/100cm^2:	0	0	0	0	0
Number of Beta TSA Samples >500,000 dpm/100cm^2:	0	0	0	0	0
Alpha Smears					
Number of Alpha Smear Samples:	312	695	405	329	529
Minimum Alpha Smear Value (dpm/100cm^2):	0	0	0	0	0
Maximum Alpha Smear Value (dpm/100cm^2):	22	79	54	69	270
Number of Alpha Smears >1,000 dpm/100cm^2:	0	0	0	0	0
Number of Alpha Smears >100,000 dpm/100cm^2:	0	0	0	0	0
Beta Smears					
Number of Beta Smear Samples:	312	695	405	329	529
Minimum Beta Smear Value (dpm/100cm^2):	0	0	0	0	0
Maximum Beta Smear Value (dpm/100cm^2):	75	255	157	205	378
Number of Beta Smears >1,000 dpm/100cm^2:	0	0	0	0	0
Number of Beta Smears >100,000 dpm/100cm^2:	0	0	0	0	0
Alpha Scans					
Number of 1 Meter Alpha Scans:	5	15	0	0	0
Maximum 1 Meter Alpha Scan Value (dpm/100cm^2):	8	189	0	0	0
Number of 1 Meter Alpha Scans >5,000 dpm/100cm^2:	0	0	0	0	0
Number of 1 Meter Alpha Scans >500,000 dpm/100cm^2:	0	0	0	0	0
Beta Scans					
Number of 1 Meter Beta Scans:	5	15	0	0	0
Maximum 1 Meter Beta Scan Value (dpm/100cm^2):	379	210,909	0	0	0
Number of 1 Meter Beta Scans >5,000 dpm/100cm^2:	0	5	0	0	0
Number of 1 Meter Beta Scans >500,000 dpm/100cm^2:	0	0	0	0	0

TABLE E-2 B865 RADIOLOGICAL DATA SUMMARY, MSC DATA, LOWER WALLS AND FLOOR <2 METERS AND EQUIPMENT

SURVEY AREA	A	Equipment
Alpha TSAs		
Number of Alpha TSA Samples:	460	52
Minimum Alpha TSA Value (dpm/100cm^2):	6	22
Maximum Alpha TSA Value (dpm/100cm^2):	122	67
Number of Alpha TSA Samples >5000 dpm/100cm^2:	0	0
Number of Alpha TSA Samples >500,000 dpm/100cm^2:	0	0
Beta TSAs		
Number of Beta TSA Samples:	460	52
Minimum Beta TSA Value (dpm/100cm^2):	1,406	1,267
Maximum Beta TSA Value (dpm/100cm^2):	27,358	1,636
Number of Beta TSA Samples >5000 dpm/100cm^2:	1	0
Number of Beta TSA Samples >500,000 dpm/100cm^2:	0	0
Alpha Smears		
Number of Alpha Smear Samples:	480	52
Minimum Alpha Smear Value (dpm/100cm^2):	30	18
Maximum Alpha Smear Value (dpm/100cm^2):	53	25
Number of Alpha Smears >1,000 dpm/100cm^2:	0	0
Number of Alpha Smears >100,000 dpm/100cm^2:	0	0
Beta Smears		
Number of Beta Smear Samples:	480	52
Minimum Beta Smear Value (dpm/100cm^2):	20	37
Maximum Beta Smear Value (dpm/100cm^2):	215	42
Number of Beta Smears >1,000 dpm/100cm^2:	0	0
Number of Beta Smears >100,000 dpm/100cm^2:	0	0
Alpha Scans		
Number of 1 Meter Alpha Scans:	124	11
Maximum 1 Meter Alpha Scan Value (dpm/100cm^2):	54	25
Number of 1 Meter Alpha Scans >5,000 dpm/100cm^2:	0	0
Number of 1 Meter Alpha Scans >500,000 dpm/100cm^2:	0	0
Beta Scans		
Number of 1 Meter Beta Scans:	124	11
Maximum 1 Meter Beta Scan Value (dpm/100cm^2):	27,358	30
Number of 1 Meter Beta Scans >5,000 dpm/100cm^2:	1	0
Number of 1 Meter Beta Scans >500,000 dpm/100cm^2:	0	0

Table E-3 ORNL Summary Statistics, Building 865 Survey Areas B-E

Room 147 Lower Walls

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	5	dpm/100cm²	292.0	365.0	321.2	28.8
Alpha	5	dpm/100cm²	0.0	45.0	9.0	18.0
Removable Beta	1	dpm/100cm²	9.5	9.5	9.5	0.0
Removable Alpha	1	dpm/100cm²	8.6	8.6	8.6	0.0
Beryllium	1	ug/100cm²	0.00008	0.00008	0.00008	0.00000

Room 148 Floor

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	20	dpm/100cm²	387.0	15182.0	2809.4	3603.0
Alpha	20	dpm/100cm²	16.0	1139.0	242.8	255.5
Removable Beta	4	dpm/100cm²	34.0	1022.8	299.6	417.8
Removable Alpha	4	dpm/100cm²	37.2	585.5	187.0	230.8
Beryllium	4	ug/100cm²	0.00054	0.00079	0.00062	0.00009

Room 148 Lower Walls

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	25	dpm/100cm²	263.0	810.0	504.2	131.1
Alpha	25	dpm/100cm²	-22.0	90.0	22.4	31.6
Removable Beta	5	dpm/100cm²	4.7	24.2	13.5	7.0
Removable Alpha	5	dpm/100cm²	2.2	21.3	9.2	7.0
Beryllium	5	ug/100cm²	0.00020	0.00042	0.00029	0.00007

Room 153 Floor

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	15	dpm/100cm²	392.0	3898.0	1205.8	879.5
Alpha	15	dpm/100cm²	-24.0	240.0	109.3	79.7
Removable Beta	3	dpm/100cm²	12.0	73.2	42.2	24.9
Removable Alpha	3	dpm/100cm²	14.9	40.4	23.4	12.0
Beryllium	3	ug/100cm²	0.00008	0.00140	0.00053	0.00061

Room 153 Lower Walls

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	18	dpm/100cm²	-219.0	693.0	221.9	239.3
Alpha	18	dpm/100cm²	-45.0	38.0	6.9	24.9
Removable Beta	4	dpm/100cm²	9.5	19.3	15.7	3.6
Removable Alpha	4	dpm/100cm²	-0.9	11.7	4.6	4.7
Beryllium	4	ug/100cm²	0.00008	0.00008	0.00008	0.00000

Room HIP Floor

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	18	dpm/100cm²	-730.0	-234.0	-457.0	114.3
Alpha	18	dpm/100cm²	-29.0	83.0	19.5	30.2
Removable Beta	4	dpm/100cm²	24.2	46.3	35.9	8.5
Removable Alpha	4	dpm/100cm²	18.1	30.9	26.1	4.7
Beryllium	4	ug/100cm²	0.00021	0.00056	0.00037	0.00012

[a] **Negative numbers designate readings below background.**

Table E-3 ORNL Summary Statistics, Building 865 Survey Areas B-E

Room 136 Floor

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	118	dpm/100cm²	-248.0	22613.0	1983.3	3378.9
Alpha	118	dpm/100cm²	-29.0	285.0	35.0	55.1
Removable Beta	26	dpm/100cm²	16.9	70.7	39.7	15.1
Removable Alpha	26	dpm/100cm²	2.2	53.2	20.6	12.4
Beryllium	25	ug/100cm²	0.00029	0.00230	0.00074	0.00045

Room 136 Lower Walls

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	66	dpm/100cm²	-285.0	1182.0	178.8	280.2
Alpha	66	dpm/100cm²	-22.0	225.0	3.2	41.8
Removable Beta	14	dpm/100cm²	-0.2	65.8	15.1	15.2
Removable Alpha	14	dpm/100cm²	-0.9	27.7	8.3	7.9
Beryllium	14	ug/100cm²	0.00008	0.00099	0.00040	0.00026

Room 145 Floor

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	935	dpm/100cm²	-2182.0	886416.0	11174.6	49829.5
Alpha	935	dpm/100cm²	-31.0	2622.0	142.0	181.2
Removable Beta	192	dpm/100cm²	7.1	734.0	63.5	69.2
Removable Alpha	192	dpm/100cm²	-0.9	480.3	36.1	43.1
Beryllium	190	ug/100cm²	0.00008	0.02400	0.00052	0.00178

Room 145 Lower Walls

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	227	dpm/100cm²	-438.0	25839.0	713.4	2612.7
Alpha	227	dpm/100cm²	-45.0	2622.0	52.3	206.7
Removable Beta	44	dpm/100cm²	-2.6	594.5	73.6	145.0
Removable Alpha	44	dpm/100cm²	-0.9	333.7	39.6	84.7
Beryllium	44	ug/100cm²	0.00008	0.01090	0.00043	0.00162

Room 146 Lower Walls

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	11	dpm/100cm²	183.0	11487.0	1688.5	3125.3
Alpha	11	dpm/100cm²	-22.0	162.0	45.0	50.5
Removable Beta	2	dpm/100cm²	9.5	124.6	67.1	57.5
Removable Alpha	2	dpm/100cm²	11.7	56.4	34.1	22.3
Beryllium	2	ug/100cm²	0.00020	0.00022	0.00021	0.00001

Room 147 Floor

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	7	dpm/100cm²	-51.0	1584.0	448.2	566.3
Alpha	7	dpm/100cm²	16.0	61.0	28.7	16.3
Removable Beta	2	dpm/100cm²	24.2	48.7	36.5	12.2
Removable Alpha	2	dpm/100cm²	21.3	24.5	22.9	1.5
Beryllium	2	ug/100cm²	0.00021	0.00025	0.00023	0.00002

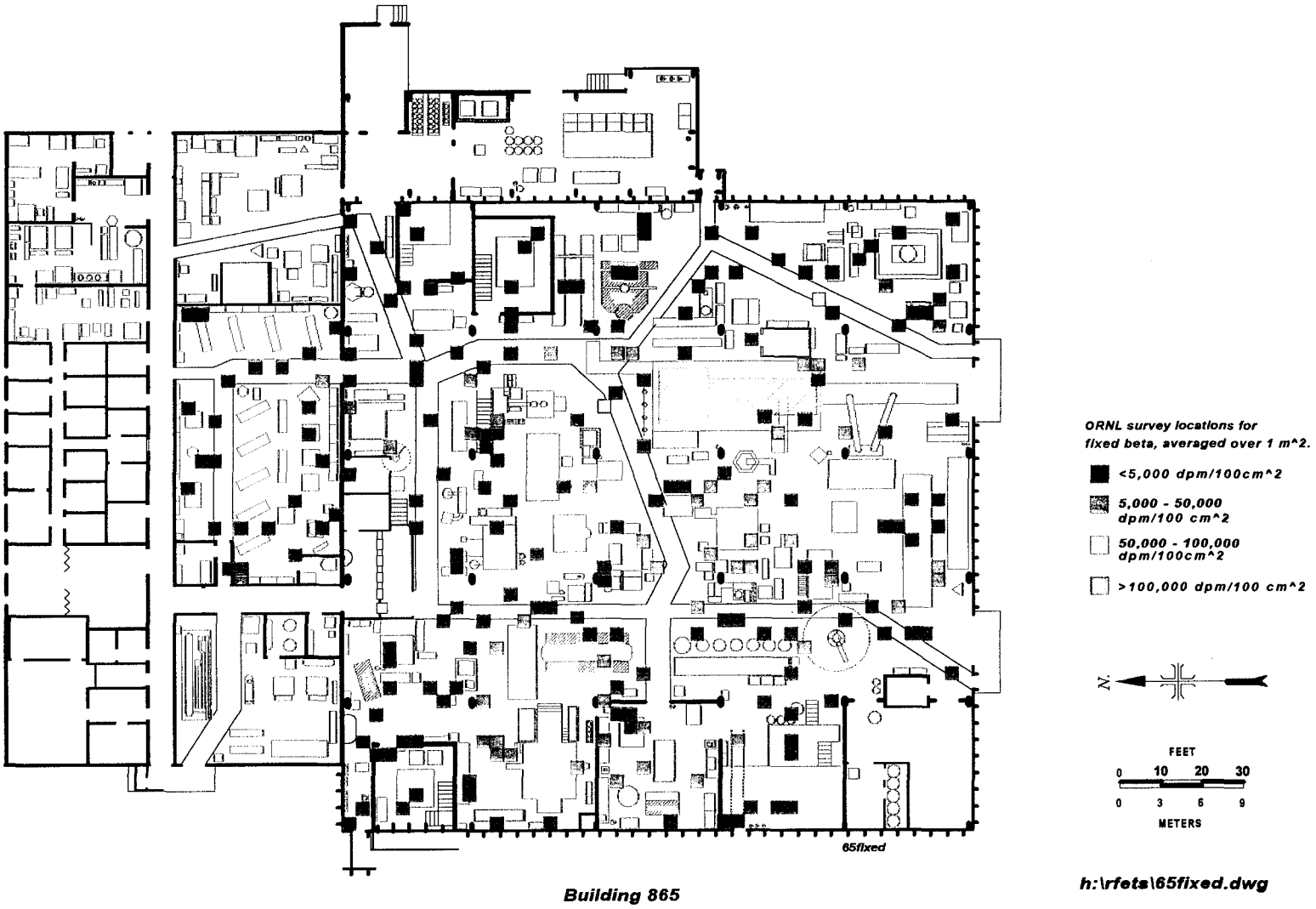
[a] **Negative numbers designate readings below background.**

Table E-3 ORNL Summary Statistics, Building 865 Survey Areas B-E

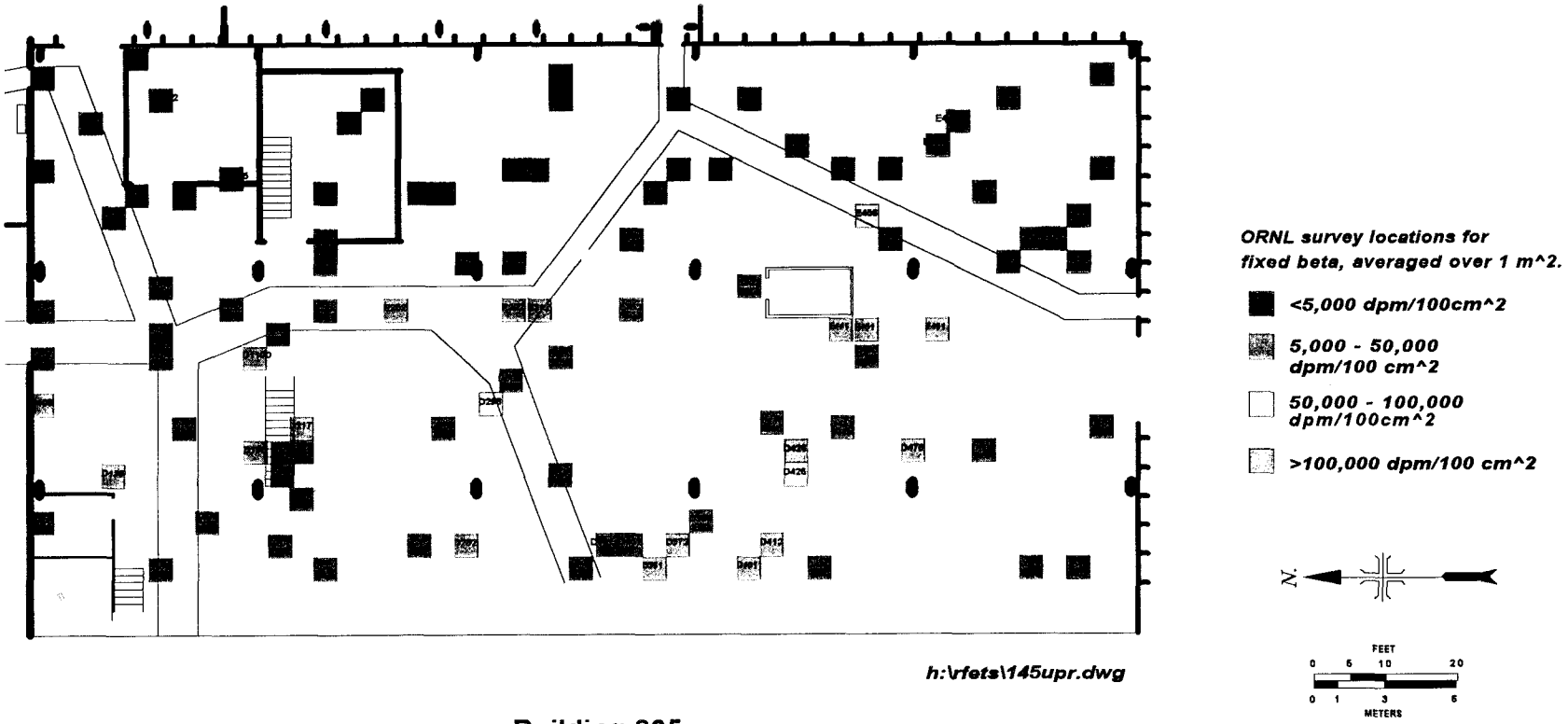
Room HIP Lower Walls

Measurement	N	Units	Min[a]	Max	Mean	Std Dev
Beta	16	dpm/100cm^2	-460.0	-175.0	-358.5	82.8
Alpha	16	dpm/100cm^2	-22.0	45.0	-6.8	20.3
Removable Beta	4	dpm/100cm^2	-0.2	14.4	7.7	5.8
Removable Alpha	4	dpm/100cm^2	-0.9	8.6	3.0	3.4
Beryllium	3	ug/100cm^2	0.00008	0.00008	0.00008	0.00000

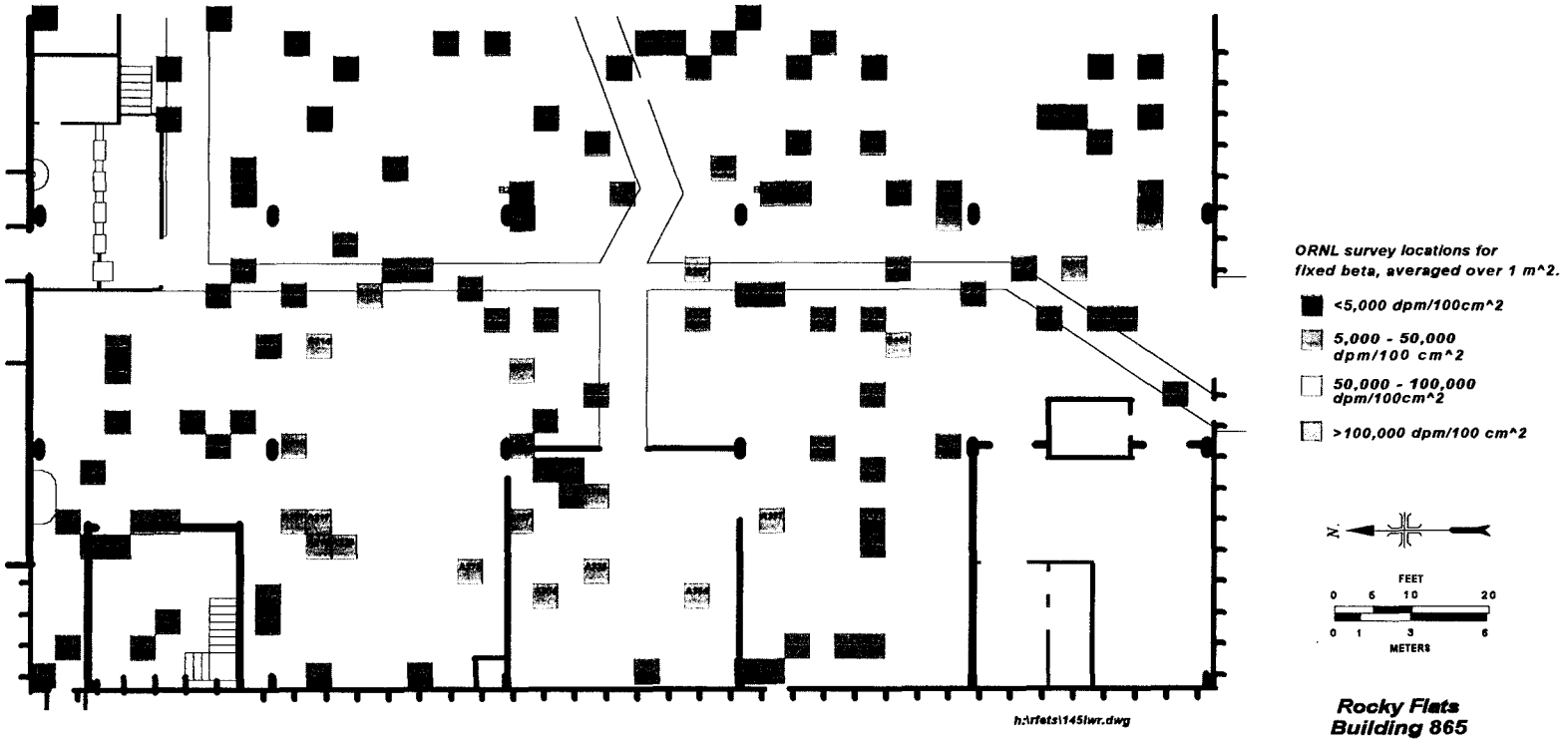
[a] Negative numbers designate readings below background.



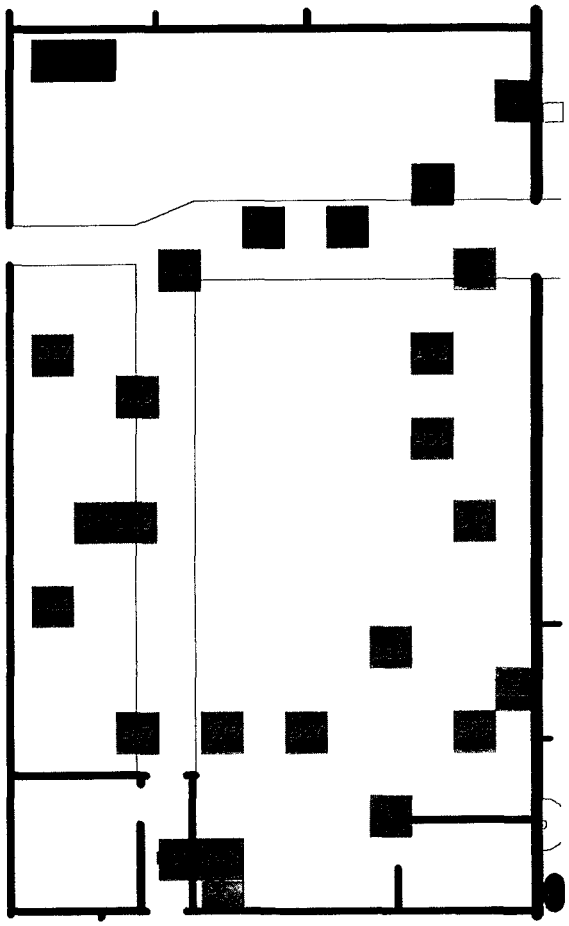
Average fixed beta measurements for Building 865 floors.



Detail average fixed beta measurements for Room 145 floors, upper half, Building 865.



Detail average fixed beta measurements for Room 145 floors, lower half, Building 865.



Building 865

ORNL survey locations for fixed beta, averaged over 1 m^2.

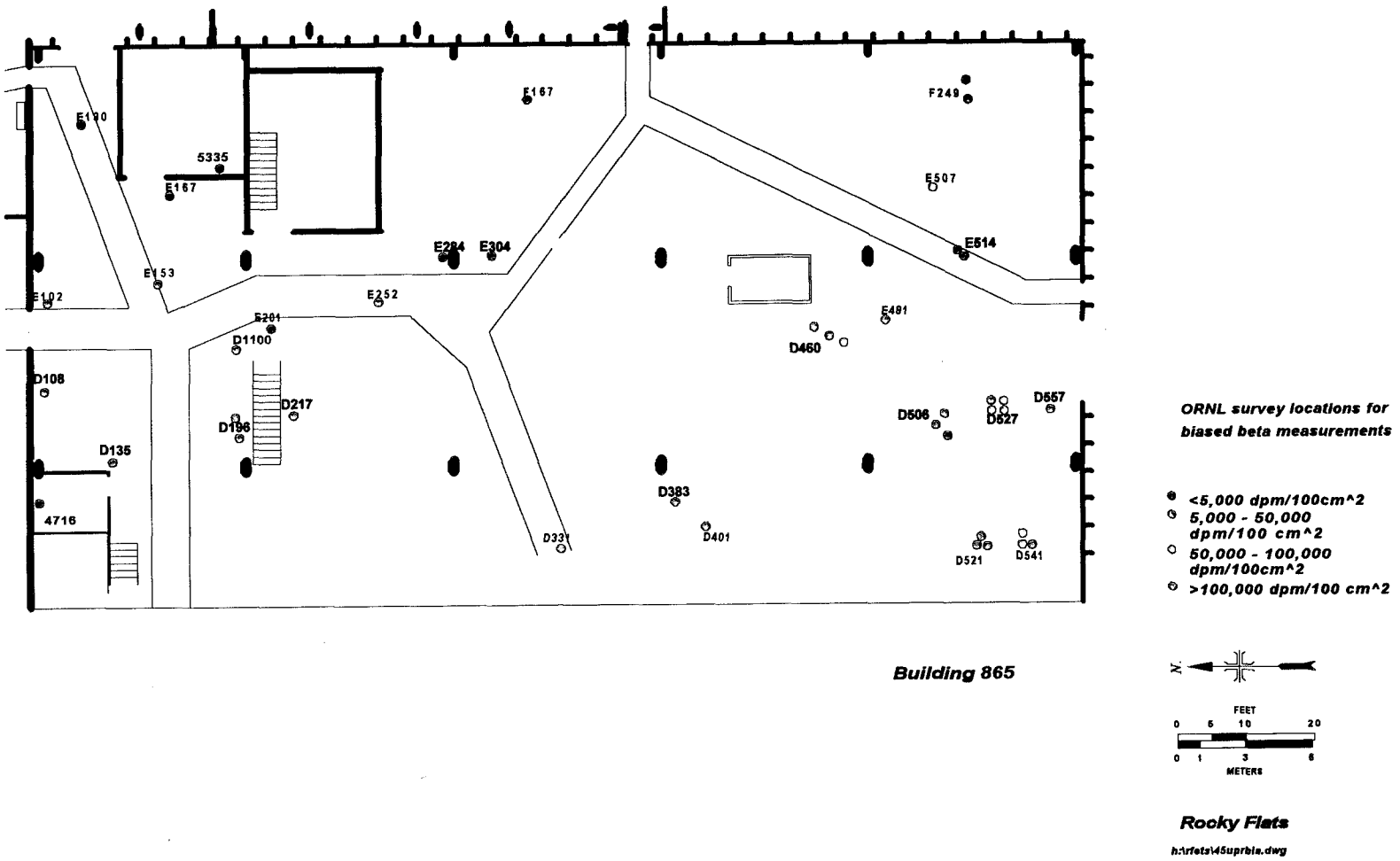
- ***<5,000 dpm/100cm^2***
- ***5,000 - 50,000 dpm/100 cm^2***
- ***50,000 - 100,000 dpm/100cm^2***
- ***>100,000 dpm/100 cm^2***

N

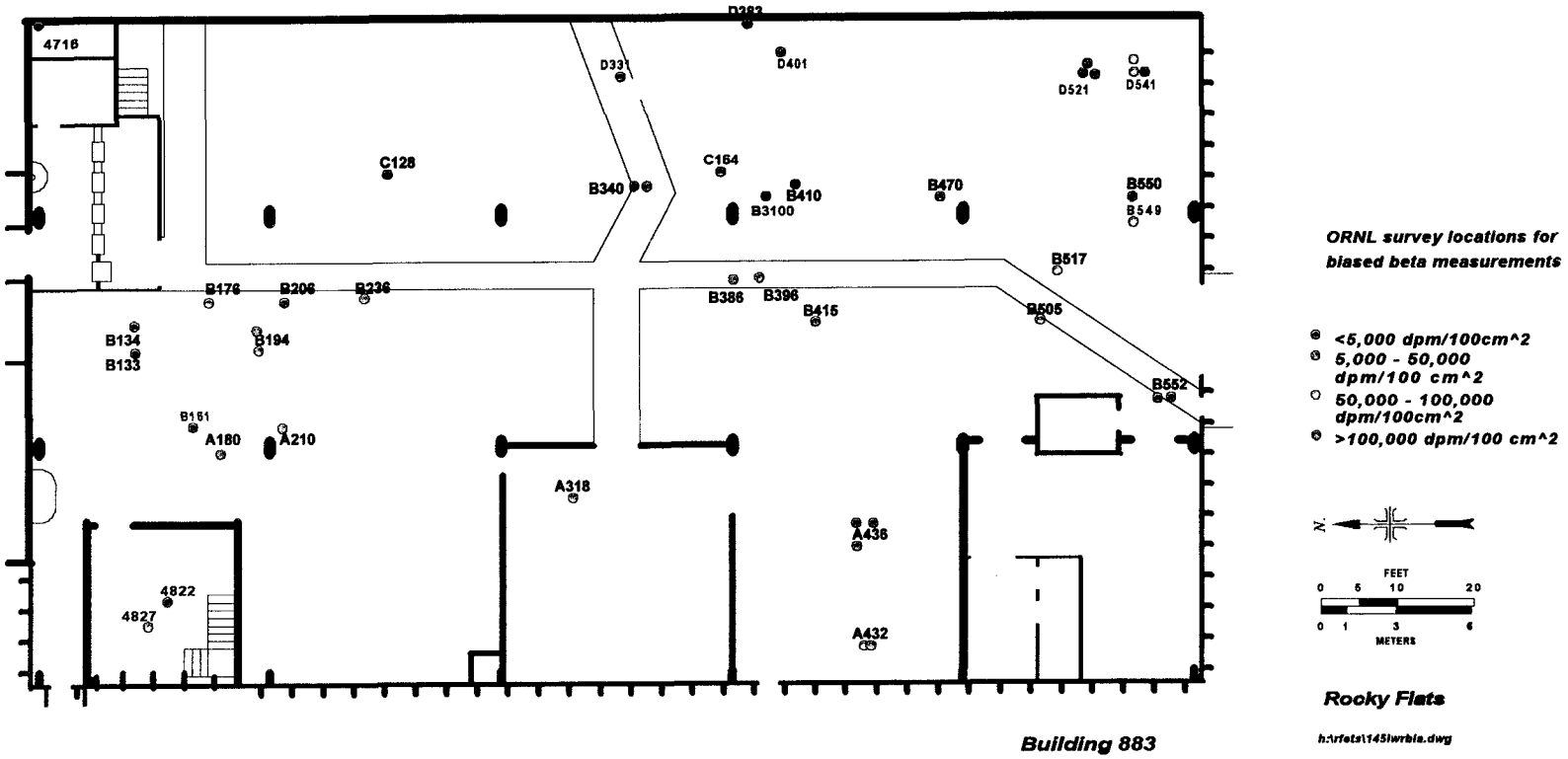
FEET
0 5 10 20
0 1 3 6
METERS

h:\rfets\136flr.dwg

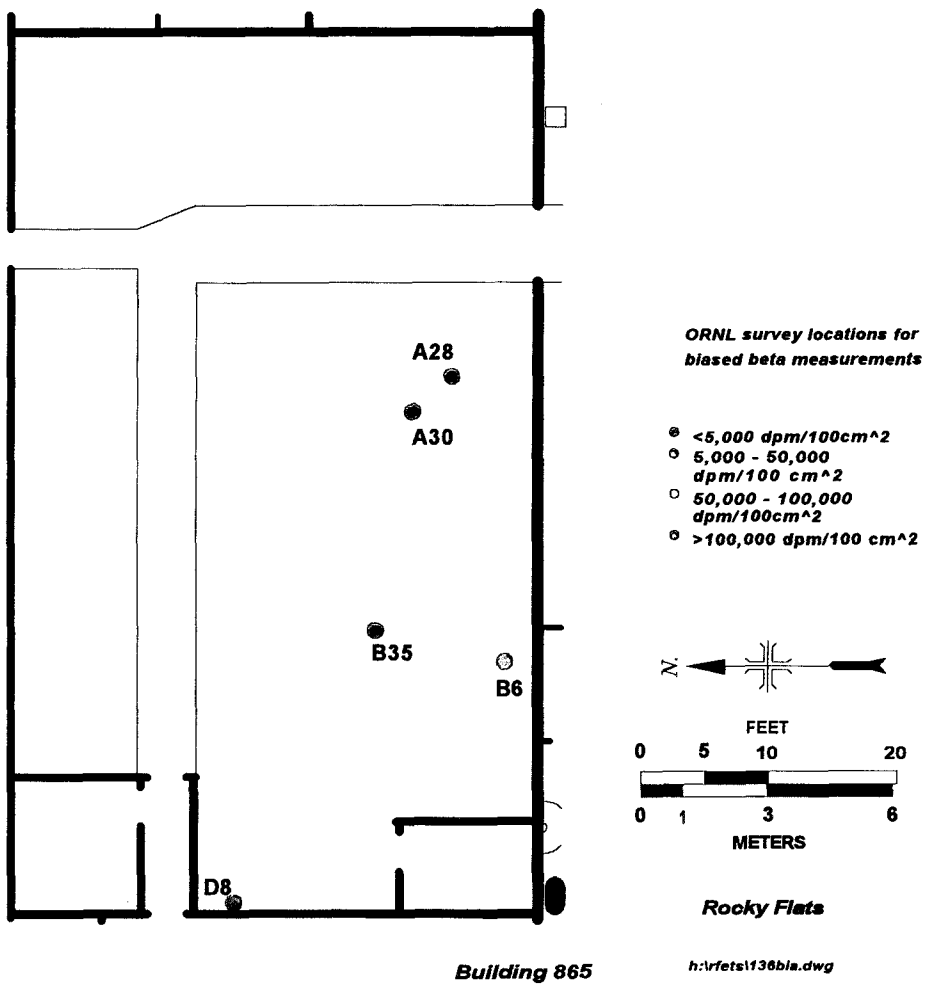
Detail average fixed beta measurements for Room 136 floors, Building 865.



Biased measurement locations for Room 145 floors, upper half, Building 865.



Biased measurement locations for Room 145 floors, lower half, Building 865.



Biased measurement locations for Room 136 floors, Building 865.

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Ludlum	Mfg.	NE Electra	Mfg.	NE Electra
Model	2929	Model	DP-6	Model	DP-6
Serial #	147742	Serial #	3107	Serial #	3107
Cal Due	7/31/01	Cal Due	9/28/01	Cal Due	9/28/01
Bkg	0.3 cpmα	Bkg	1 cpmα	Bkg	1 cpmα
Efficiency	33.70 %	Efficiency	22.00 %	Efficiency	22.00 %
MDA	14 dpmα	MDA	33 dpmα	MDA	33 dpmα

Mfg.	Ludlum	Mfg.	NE Electra	Mfg.	NE Electra
Model	2929	Model	DP-6	Model	DP-6
Serial #	147742	Serial #	3107	Serial #	3107
Cal Due	7/31/01	Cal Due	9/28/01	Cal Due	9/28/01
Bkg	78 cpmβ	Bkg	622 cpmβ	Bkg	622 cpmβ
Efficiency	37.50 %	Efficiency	32.50 %	Efficiency	32.50 %
MDA	92 dpmβ	MDA	365 dpmβ	MDA	365 dpmβ

Survey Type: Contamination
Building: 865
Location: Trenches and sumps and pits
Purpose: RLC Survey

RWP #: 881-01-21

Date: 7/26/01 Time: 0800

R [redacted] Emp. #

R [redacted] Print Name Signature Emp. #

PRN/REN # : N/A
Comments:

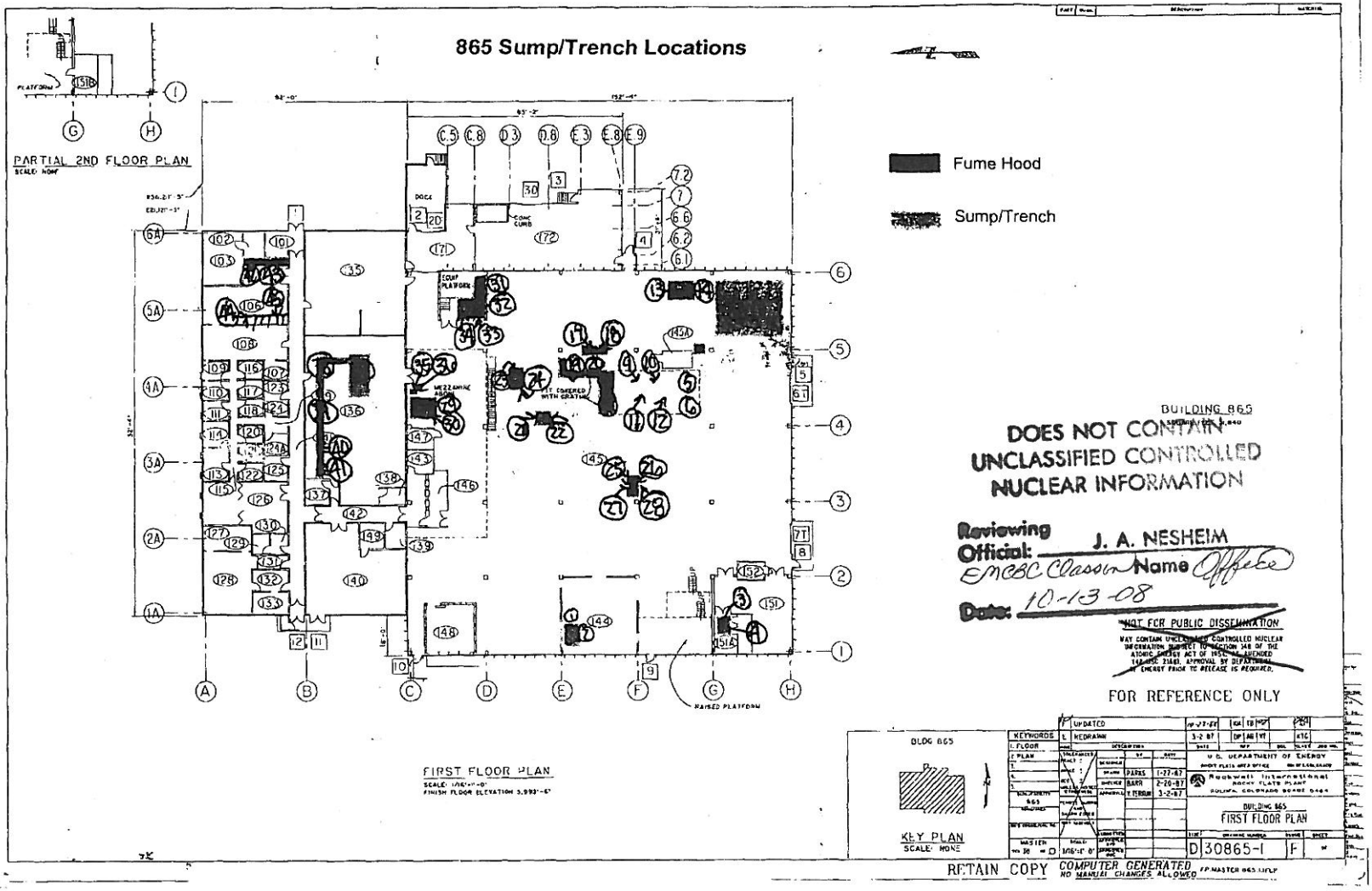
SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta	Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
1	Room 144 Sump	88	1355	168	2311	26	145 Center Cover	35	<92	359	179317
2	Room 144 Sump	88	971	386	214394	27	145 Center Top Edge	2	<92	400	1742702
3	Room 151 A BE Cell	8	<92	0	34086	28	145 Center Trench	177	675	832	1373471
4	Room 151 A BE Cell	14	<92	36	2209	29	Room 145 X-Ray Pit	11	<92	68	14649
5	Room 145 Blue Press South	136	461	450	711932	30	Room 145 X-Ray Pit	2	<92	NA	NA
6	Room 145 Blue Press South	376	995	NA	NA	31	Room 153 I/S	2	<92	45	1049
7	Room 145 Blue Press North	23	35	NA	NA	32	Room 153 I/S	2	<92	NA	NA
8	Room 145 Blue Press North	23	435	<33	4548	33	Room 153 O/S	<14	<92	100	1295
9	Room 145 Blue Press East	61	173	5	7932	34	Room 153 O/S	<14	<92	NA	NA
10	Room 145 Blue Press East	355	<92	NA	NA	35	Room 145 Pit X-Ray Pit	20	<92	214	3738
11	Blue Press North Deep Pit	11	<92	50	102702	36	Room 145 Pit X-Ray Pit	58	184	336	160548
12	Blue Press North Deep Pit	2	<92	NA	NA	37	Room 136 Trench	<14	27	245	34702
13	Room 145 Orange Press	11	<92	NA	NA	38	Room 136 Trench	8	<92	177	25778
14	Room 145 Orange Press	23	<92	50	102702	39	Room 136 Trench	5	125	464	29471
15	Room 145 Hammer Mill	32	112	2086	1382702	40	Room 136 Trench	11	21	1145	158394
16	Room 145 Hammer Mill	64	5	NA	NA	41	Room 136 Trench	8	<92	495	3108
17	Room 145 Verticle Mill	<14	<92	NA	NA	42	Room 106 Fume Hood East	<14	<92	59	1822
18	Room 145 Verticle Mill	14	155	505	123625	43	Room 106 Fume Hood East	2	<92	45	15
19	Room 145 North Trench	100	461	132	29778	44	Room 106 Fume Hood West	20	173	36	<365
20	Room 145 North Trench	23	56	<33	18702	45	Room 106 Fume Hood West	<14	<92	32	400
21	Room 145 Under 5 Ton Scale	<14	<92	82	16705	N/A	N/A	N/A	N/A	N/A	NA
22	Room 145 Under 5 Ton Scale	14	<92	95	11058	N/A	N/A	N/A	N/A	N/A	NA
23	Room 145 DU Roller North	32	176	64	172855	N/A	N/A	N/A	N/A	N/A	NA
24	Room 145 DU Roller South	109	757	95	16578	N/A	N/A	N/A	N/A	N/A	NA
25	145 Center Sump	29	<92	9	5378	N/A	N/A	N/A	N/A	N/A	NA

Date Reviewed: 8-8-01 **RS Supervision:** [redacted] Emp. #

120

865 Sump/Trench Locations



BUILDING 865
DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION

Reviewing Official: J. A. NESHEIM
EM CBC Classification Officer
Date: 10-13-08

NOT FOR PUBLIC DISSEMINATION
MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED, 148 USC 2168. APPROVAL BY DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

FOR REFERENCE ONLY

KEYWORDS	UPDATED	3-2-87	
L FLOOR	REDRAWN		
2 PLAN			
3			
4			
5			
6 SOUTH			
865 HOUSING			
MASTER			

DRAWN PARKS 1-27-87
CHECKED BARR 2-26-87
APPROVED T. FERRUM 3-2-87

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS AREA OFFICE
Rockwell International
ROCKY FLATS PLANT
GOLDEN, COLORADO 80402

BUILDING 865
FIRST FLOOR PLAN

D 30865-1 F

RETAIN COPY COMPUTER GENERATED NO MANUAL CHANGES ALLOWED FP MASTER 865 1.DFLT

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	NE Electra	Mfg.	NE Electra
Model	SAC-4	Model	DP-6	Model	DP-6
Serial #	1158	Serial #	1366	Serial #	1682
Cal Due	11/1/01	Cal Due	7/22/01	Cal Due	7/22/01
Bkg	0.3 cpmα	Bkg	3 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	20.80 %	Efficiency	22.00 %
MDA	20 dpmα	MDA	52 dpmα	MDA	42 dpmα

Mfg.	Eberline	Mfg.	NE Electra	Mfg.	NE Electra
Model	BC-4	Model	DP-6	Model	DP-6
Serial #	842	Serial #	1366	Serial #	1682
Cal Due	12/28/01	Cal Due	7/22/01	Cal Due	7/22/01
Bkg	37 cpmβ	Bkg	780 cpmβ	Bkg	721 cpmβ
Efficiency	25.00 %	Efficiency	32.30 %	Efficiency	30.20 %
MDA	200 dpmβ	MDA	410 dpmβ	MDA	422 dpmβ

Survey Type: Contamination
Building: 866
Location: Floor, ceiling, walls and equipment
Purpose: RLC Survey
RWP #: N/A
Date: 6/25/01 Time: 1700
RC [redacted] #
RC [redacted] #

PRN/REN # : N/A
Comments: 0 = Less than or equal to zero.
1 meter scans on points 1 - 40, no elevated levels detected

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1	Floor	0	40	9	760
2	Floor	0	0	4.5	0
3	Floor	0	0	0	437
4	Floor	0	0	0	0
5	Floor	0	0	0	2322
6	Floor	0	0	18.18	0
7	Floor	0	0	0	177
8	Floor	1.2	0	0	0
9	West Wall	0	0	5	0
10	West Wall	0	35.2	0	0
11	West Wall	0	0	10	0
12	West Wall	0	0	14	0
13	West Wall	0	0	0	0
14	West Wall	0	0	0	0
15	West Wall	0	0	43	0
16	West Wall	0	0	0	0
17	North Wall	0	0	0	0
18	North Wall	0	47.2	23	0
19	North Wall	0	0	0	0
20	East Wall	0	0	9	0
21	East Wall	0	2	5	0
22	East Wall	0	0	0	0
23	East Wall	0	0	0	0
24	East Wall	0	0	0	0
25	East Wall	0	0	5	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
26	East Wall	0	27	0	0
27	East Wall	0	0	0	759
28	South Wall	4	0	0	0
29	South Wall	0	0	5	440
30	South Wall	1	128	0	0
31	West Wall >2m	0	0	0	0
32	West Wall >2m	0	0	0	0
33	North Wall > 2m	0	0	0	0
34	East Wall >2m	0	0	0	0
35	East Wall >2m	0	0	0	0
36	South Wall >2m	0	0	0	0
37	Ceiling	0	35	0	0
38	Ceiling	0	0	0	0
39	Ceiling	0	0	0	0
40	Ceiling	0	0	0	0
41	North Light Sw	0	0	0	0
42	Tank T-1 Inlet pipe	0	0	0	0
43	Tank T-1 Manway	0	19	0	0
44	Tank T-1 Sight glass	0	51	0	0
45	Tank T-1 Outlet pipe	3	31	0	0
46	Tank T-1	0	0	0	0
47	Tank T-2 Inlet pipe	1	0	0	0
48	Tank T-2 Manway	0	0	0	0
49	Tank T-2 Sight glass	0	0	24	0
50	Tank T-2 Outlet pipe	0	0	0	0

Date Reviewed: 9-7-01 **RS Supervision:** [redacted]
Print Name Signature Emp. #

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

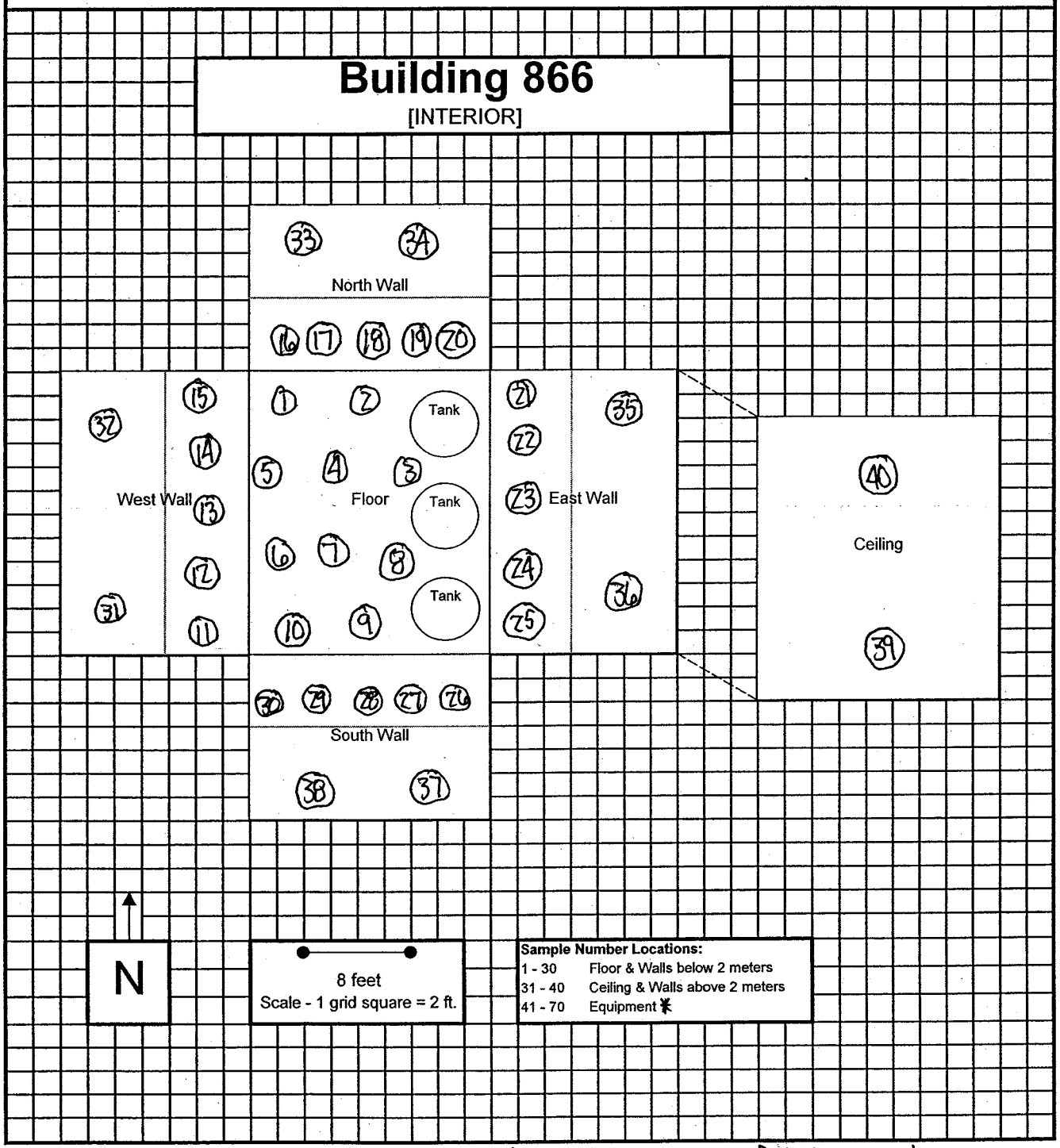
SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
51	Tank T-2	0	0	0	0
52	Tank T-3 Inlet pipe	0	0	0	0
53	Tank T-3 Manway	0	0	0	0
54	Tank T-3 Sight glass	0	0	0	0
55	Tank T-3 Outlet pipe	0	0	0	0
56	Tank T-3	1	0	0	0
57	B Pump motor	0	0	19	0
58	A Pump motor	0	0	0	0
59	A Pump	28	0	81	0
60	B Pump	0	0	0	0
61	Sump Flange	0	0	0	0
62	T-2 Over flow Pipe	0	0	0	0
63	Pump A Disconnect	0	0	14	0
64	Process Waste Flange	0	0	9	0
65	North Cabinet	0	0	33	0
66	West Wall Outlet	0	0	0	0
67	Process Pipe West	0	0	0	0
68	Vent Duct	0	0	0	0
69	Vent Unit	0	0	5	0
70	Vent Screen	0	0	0	0
71	NA	NA	NA	NA	NA
72	NA	NA	NA	NA	NA
73	NA	NA	NA	NA	NA
74	NA	NA	NA	NA	NA
75	NA	NA	NA	NA	NA
76	NA	NA	NA	NA	NA
77	NA	NA	NA	NA	NA
78	NA	NA	NA	NA	NA
79	NA	NA	NA	NA	NA
80	NA	NA	NA	NA	NA
81	NA	NA	NA	NA	NA
82	NA	NA	NA	NA	NA
83	NA	NA	NA	NA	NA
84	NA	NA	NA	NA	NA
85	NA	NA	NA	NA	NA
86	NA	NA	NA	NA	NA
87	NA	NA	NA	NA	NA
88	NA	NA	NA	NA	NA
89	NA	NA	NA	NA	NA
90	NA	NA	NA	NA	NA
91	NA	NA	NA	NA	NA
92	NA	NA	NA	NA	NA
93	NA	NA	NA	NA	NA
94	NA	NA	NA	NA	NA
95	NA	NA	NA	NA	NA
96	NA	NA	NA	NA	NA
97	NA	NA	NA	NA	NA
98	NA	NA	NA	NA	NA
99	NA	NA	NA	NA	NA
100	NA	NA	NA	NA	NA
101	NA	NA	NA	NA	NA

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
102	NA	NA	NA	NA	NA
103	NA	NA	NA	NA	NA
104	NA	NA	NA	NA	NA
105	NA	NA	NA	NA	NA
106	NA	NA	NA	NA	NA
107	NA	NA	NA	NA	NA
108	NA	NA	NA	NA	NA
109	NA	NA	NA	NA	NA
110	NA	NA	NA	NA	NA
111	NA	NA	NA	NA	NA
112	NA	NA	NA	NA	NA
113	NA	NA	NA	NA	NA
114	NA	NA	NA	NA	NA
115	NA	NA	NA	NA	NA
116	NA	NA	NA	NA	NA
117	NA	NA	NA	NA	NA
118	NA	NA	NA	NA	NA
119	NA	NA	NA	NA	NA
120	NA	NA	NA	NA	NA
121	NA	NA	NA	NA	NA
122	NA	NA	NA	NA	NA
123	NA	NA	NA	NA	NA
124	NA	NA	NA	NA	NA
125	NA	NA	NA	NA	NA
126	NA	NA	NA	NA	NA
127	NA	NA	NA	NA	NA
128	NA	NA	NA	NA	NA
129	NA	NA	NA	NA	NA
130	NA	NA	NA	NA	NA
131	NA	NA	NA	NA	NA
132	NA	NA	NA	NA	NA
133	NA	NA	NA	NA	NA
134	NA	NA	NA	NA	NA
135	NA	NA	NA	NA	NA
136	NA	NA	NA	NA	NA
137	NA	NA	NA	NA	NA
138	NA	NA	NA	NA	NA
139	NA	NA	NA	NA	NA
140	NA	NA	NA	NA	NA
141	NA	NA	NA	NA	NA
142	NA	NA	NA	NA	NA
143	NA	NA	NA	NA	NA
144	NA	NA	NA	NA	NA
145	NA	NA	NA	NA	NA
146	NA	NA	NA	NA	NA
147	NA	NA	NA	NA	NA
148	NA	NA	NA	NA	NA
149	NA	NA	NA	NA	NA
150	NA	NA	NA	NA	NA
151	NA	NA	NA	NA	NA
152	NA	NA	NA	NA	NA

@RAH

Survey Area:	A	Survey Unit:	N/A	Building/Structure:	866
Survey Unit/Area Description:	Interior surfaces & Equipment in B866				



* Sample locations A1-70 were taken on associated equipment. Location descriptions are documented on RS FORMS 07.02-01.

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	NE Electra	Mfg.	NE Electra
Model	SAC-4	Model	DP-6	Model	DP-6
Serial #	1158	Serial #	1366	Serial #	1682
Cal Due	11/1/01	Cal Due	7/22/01	Cal Due	7/22/01
Bkg	0.3 cpmα	Bkg	3 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	20.80 %	Efficiency	22.00 %
MDA	20 dpmα	MDA	52 dpmα	MDA	42 dpmα

Mfg.	Eberline	Mfg.	NE Electra	Mfg.	NE Electra
Model	BC-4	Model	DP-6	Model	DP-6
Serial #	842	Serial #	1366	Serial #	1682
Cal Due	12/28/01	Cal Due	7/22/01	Cal Due	7/22/01
Bkg	37 cpmβ	Bkg	780 cpmβ	Bkg	721 cpmβ
Efficiency	25.00 %	Efficiency	32.30 %	Efficiency	30.20 %
MDA	200 dpmβ	MDA	410 dpmβ	MDA	422 dpmβ

Survey Type: Contamination
Building: 867
Location: Floor, ceiling, walls and equipment
Purpose: RLC Survey

RWP #: N/A

Date: 6/25/01 Time: 1700

RCT [redacted]

RCT [redacted]

PRN/REN # : N/A
Comments: 0 = Less than or equal to zero.
1 meter scans on points 1 - 40, no elevated levels detected

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
1	Floor	0	40	9	760
2	Floor	2.1	0	9.091	0
3	Floor	0	0	0	157.9
4	Floor	0	28	0	0
5	Floor	0	0	24.04	46.44
6	Floor	0	0	13.64	0
7	Floor	0	0	38.46	167.2
8	Floor	5.1	0	27.27	0
9	West Wall	0	0	9.615	0
10	West Wall	0	20	0	0
11	West Wall	0	0	9.615	0
12	West Wall	0	0	4.545	0
13	West Wall	0	0	0	0
14	West Wall	0	0	0	0
15	West Wall	0	0	14.42	0
16	West Wall	0	0	0	0
17	North Wall	0	0	28.85	0
18	North Wall	0	24	13.64	0
19	North Wall	0	0	0	0
20	East Wall	0	0	18.18	0
21	East Wall	0	2	24.04	0
22	East Wall	0	48	0	0
23	East Wall	0	0	4.808	0
24	East Wall	0	0	0	0
25	East Wall	0	0	14.42	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
26	East Wall	0	20	0	0
27	East Wall	0	0	14.42	55.73
28	South Wall	2.1	0	0	0
29	South Wall	0	0	4.808	89.78
30	South Wall	2.1	164	0	0
31	West Wall >2m	0	0	0	0
32	West Wall >2m	0	0	0	0
33	North Wall > 2m	0	0	4.808	0
34	East Wall >2m	2.1	0	0	0
35	East Wall >2m	0	0	0	0
36	South Wall >2m	0	0	0	0
37	Ceiling	0	16	0	0
38	Ceiling	0	0	0	0
39	Ceiling	5.1	0	0	0
40	Ceiling	0	0	0	0
41	South Exh Duct	0	0	28.85	0
42	South Exh Door	0	0	0	0
43	South Fan Motor	2.1	40	9.615	0
44	South FanBelt Cover	0	16	0	0
45	South Exh Duct	3	40	0	0
46	South Pully Guard	0	0	0	0
47	South Exh Duct	2.1	0	0	0
48	South Expansion Joint	0	0	0	0
49	North Fan Motor	0	0	0	0
50	North Exh Door	0	0	0	0

Date Reviewed: 7-11-01 **RS Supervision:** [redacted]

Print Name Signature Emp. #

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
51	North Suction Duct	0	0	28.85	0
52	North Fan Belt Guard	0	0	0	0
53	North Exh Duct	0	0	0	0
54	North Fan Bearing Guard	0	0	0	0
55	480 Volt Elec Panel	0	0	0	0
56	North Transformer	5.1	0	0	0
57	120 Volt Panel	0	0	4.808	0
58	E-4 Control Panel	0	0	0	0
59	North Exh Duct	2.1	0	14.42	0
60	North Suction Duct	0	0	0	0
61	Alarm Panel Rear	0	0	0	0
62	Alarm Panel Front	0	0	0	0
63	Exh Air Panel	0	12	14.42	0
64	Airflow Control Panel	2.1	0	18.18	0
65	North Door Sensor	0	0	24.04	0
66	North Light Switch	0	0	0	0
67	Fan E-4 Bottom	0	0	14.42	0
68	Fan E-4 Side	0	0	0	0
69	Exh Air Panel Rear	0	20	9.615	0
70	Alarm Panel Rear	0	0	0	0
71	NA	NA	NA	NA	NA
72	NA	NA	NA	NA	NA
73	NA	NA	NA	NA	NA
74	NA	NA	NA	NA	NA
75	NA	NA	NA	NA	NA
76	NA	NA	NA	NA	NA
77	NA	NA	NA	NA	NA
78	NA	NA	NA	NA	NA
79	NA	NA	NA	NA	NA
80	NA	NA	NA	NA	NA
81	NA	NA	NA	NA	NA
82	NA	NA	NA	NA	NA
83	NA	NA	NA	NA	NA
84	NA	NA	NA	NA	NA
85	NA	NA	NA	NA	NA
86	NA	NA	NA	NA	NA
87	NA	NA	NA	NA	NA
88	NA	NA	NA	NA	NA
89	NA	NA	NA	NA	NA
90	NA	NA	NA	NA	NA
91	NA	NA	NA	NA	NA
92	NA	NA	NA	NA	NA
93	NA	NA	NA	NA	NA
94	NA	NA	NA	NA	NA
95	NA	NA	NA	NA	NA
96	NA	NA	NA	NA	NA
97	NA	NA	NA	NA	NA
98	NA	NA	NA	NA	NA
99	NA	NA	NA	NA	NA
100	NA	NA	NA	NA	NA
101	NA	NA	NA	NA	NA

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
102	NA	NA	NA	NA	NA
103	NA	NA	NA	NA	NA
104	NA	NA	NA	NA	NA
105	NA	NA	NA	NA	NA
106	NA	NA	NA	NA	NA
107	NA	NA	NA	NA	NA
108	NA	NA	NA	NA	NA
109	NA	NA	NA	NA	NA
110	NA	NA	NA	NA	NA
111	NA	NA	NA	NA	NA
112	NA	NA	NA	NA	NA
113	NA	NA	NA	NA	NA
114	NA	NA	NA	NA	NA
115	NA	NA	NA	NA	NA
116	NA	NA	NA	NA	NA
117	NA	NA	NA	NA	NA
118	NA	NA	NA	NA	NA
119	NA	NA	NA	NA	NA
120	NA	NA	NA	NA	NA
121	NA	NA	NA	NA	NA
122	NA	NA	NA	NA	NA
123	NA	NA	NA	NA	NA
124	NA	NA	NA	NA	NA
125	NA	NA	NA	NA	NA
126	NA	NA	NA	NA	NA
127	NA	NA	NA	NA	NA
128	NA	NA	NA	NA	NA
129	NA	NA	NA	NA	NA
130	NA	NA	NA	NA	NA
131	NA	NA	NA	NA	NA
132	NA	NA	NA	NA	NA
133	NA	NA	NA	NA	NA
134	NA	NA	NA	NA	NA
135	NA	NA	NA	NA	NA
136	NA	NA	NA	NA	NA
137	NA	NA	NA	NA	NA
138	NA	NA	NA	NA	NA
139	NA	NA	NA	NA	NA
140	NA	NA	NA	NA	NA
141	NA	NA	NA	NA	NA
142	NA	NA	NA	NA	NA
143	NA	NA	NA	NA	NA
144	NA	NA	NA	NA	NA
145	NA	NA	NA	NA	NA
146	NA	NA	NA	NA	NA
147	NA	NA	NA	NA	NA
148	NA	NA	NA	NA	NA
149	NA	NA	NA	NA	NA
150	NA	NA	NA	NA	NA
151	NA	NA	NA	NA	NA
152	NA	NA	NA	NA	NA

@RAH

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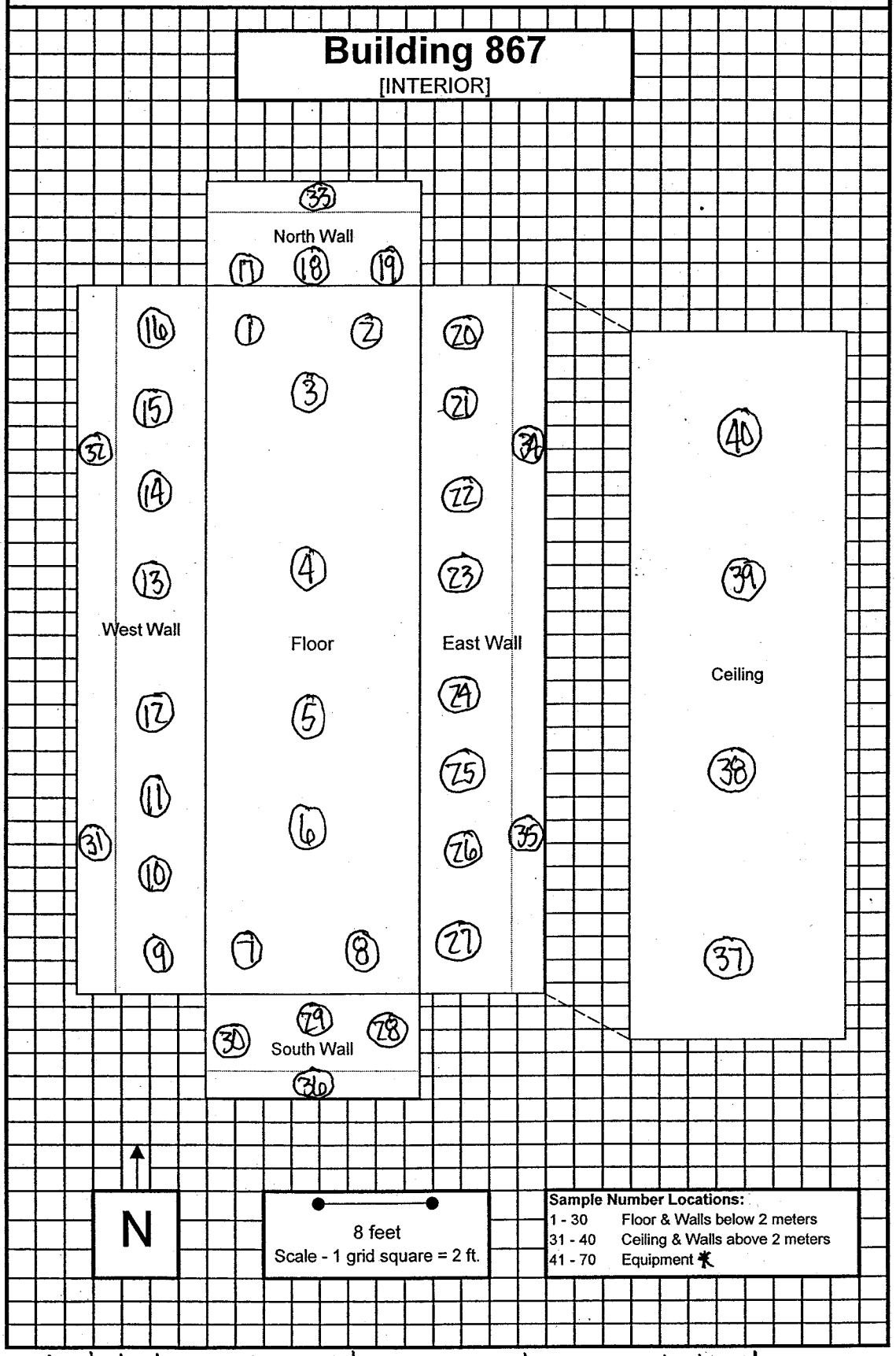
Survey Area: B	Survey Unit: N/A	Building/Structure: 867
Survey Unit/Area Description: Interior surfaces & Equipment in B867		



* Sample locations 41-70 were taken on associated equipment. Location descriptions are documented on RS FORMS 07.02-01.

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	NE Electra	Mfg.	NE Electra
Model	SAC-4	Model	DP-6	Model	DP-6
Serial #	1158	Serial #	1366	Serial #	1682
Cal Due	11/1/01	Cal Due	7/22/01	Cal Due	7/22/01
Bkg	0.6 cpmα	Bkg	3 cpmα	Bkg	7 cpmα
Efficiency	33.00 %	Efficiency	20.80 %	Efficiency	22.00 %
MDA	20 dpmα	MDA	52 dpmα	MDA	68 dpmα

Mfg.	Eberline	Mfg.	NE Electra	Mfg.	NE Electra
Model	BC-4	Model	DP-6	Model	DP-6
Serial #	842	Serial #	1366	Serial #	1682
Cal Due	12/28/01	Cal Due	7/22/01	Cal Due	7/22/01
Bkg	44.4 cpmβ	Bkg	687 cpmβ	Bkg	881 cpmβ
Efficiency	25.00 %	Efficiency	32.30 %	Efficiency	30.20 %
MDA	200 dpmβ	MDA	386 dpmβ	MDA	466 dpmβ

Survey Type: Contamination
Building: 868
Location: Floor, ceiling, walls and equipment
Purpose: RLC Survey

RWP #: N/A

Date: 6/21/01 Time: 14:00

RCT: [redacted] Emp. #

RCT: [redacted] Print name Signature Emp. #

PRN/REN # : N/A
Comments: 0 = Less than or equal to zero
1 meter scans on points 1 - 40 , no elevated levels detected

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
1	Floor	0	0	24.04	597.5
2	Floor	1.2	0	0	0
3	Floor	0	38.4	0	467.5
4	Floor	1.2	10.4	0	0
5	Floor	1.2	0	4.808	442.7
6	Floor	4.2	0	9.091	0
7	Floor	0	0	9.615	479.9
8	Floor	1.2	0	4.545	0
9	West Wall	0	0	28.85	0
10	West Wall	4.2	14.4	0	0
11	West Wall	0	0	226	0
12	West Wall	0	0	4.545	0
13	West Wall	0	0	9.615	0
14	West Wall	0	0	0	0
15	West Wall	0	18.4	33.65	0
16	West Wall	0	0	0	0
17	North Wall	0	0	4.808	0
18	North Wall	0	30.4	0	0
19	North Wall	0	0	4.808	0
20	East Wall	0	0	0	0
21	East Wall	0	2	4.808	0
22	East Wall	0	18.4	0	0
23	East Wall	0	0	19.23	0
24	East Wall	0	0	0	0
25	East Wall	0	0	24.04	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
26	East Wall	0	18.4	0	0
27	East Wall	0	0	14.42	532.5
28	South Wall	4.2	0	0	0
29	South Wall	1.2	0	4.808	216.7
30	South Wall	4.2	204	0	0
31	West Wall >2m	0	0	4.808	520.1
32	West Wall >2m	4.2	2.4	0	0
33	North Wall > 2m	0	0	24.04	340.6
34	East Wall >2m	1.2	0	0	0
35	East Wall >2m	0	0	14.42	0
36	South Wall >2m	1.2	6.4	0	0
37	Ceiling	4.2	50.4	19.23	269.3
38	Ceiling	4.2	0	0	0
39	Ceiling	1.2	0	4.808	0
40	Ceiling	0	0	0	0
41	N. air volume control panel	0	0	9.615	0
42	Alarm panel	0	0	0	0
43	Ehx. Monitoring Panel	1.2	14.4	0	0
44	South Side Exh Panel	0	46.4	0	0
45	North Exh Suction Duct	0	2.4	0	0
46	N Exh Duct Door	1.2	10.4	0	0
47	North Exh Fan Motor	1.2	0	9.615	0
48	Exh fan	7.2	0	0	0
49	N Exh Fan Belt Guard	1.2	0	24.04	0
50	East wall Elect Panel	0	0	0	0

Date Reviewed: 7-11-01 **RS Supervision:** [redacted] Emp. #

@RAH

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

SURVEY RESULTS

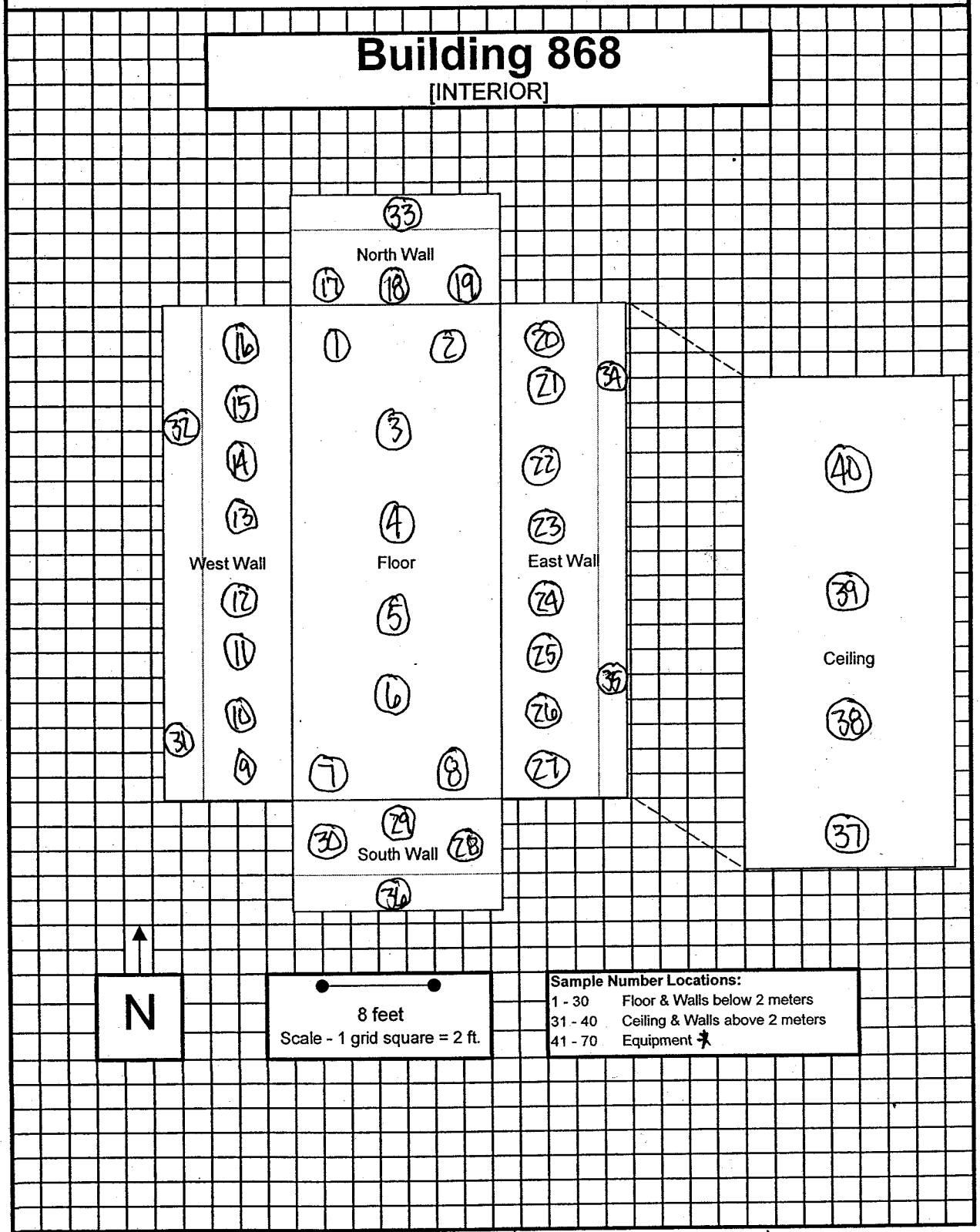
Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
51	North Exh Duct	0	0	19.23	0
52	North Exh Duct	0	0	0	0
53	North Exh Suction	1.2	18.4	0	0
54	South Exh Duct	0	0	0	0
55	South Exh Fan Motor	1.2	0	4.808	0
56	South Exh Duct	1.2	0	0	0
57	South Exh Pully Guard	4.2	6.4	4.808	0
58	South Elec Panel	0	0	0	0
59	South Exh Duct	1.2	14.4	33.65	0
60	South Elec Panel	4.2	0	0	0
61	South Heater	1.2	0	28.85	0
62	South Light Switch	1.2	0	0	0
63	South Light	0	34.4	43.27	0
64	South Exh Duct	1.2	0	0	0
65	South Exh Duct	4.2	6.4	0	0
66	South Exh Duct	0	0	0	0
67	South Exh Duct	0	0	4.808	0
68	North Heater	0	0	0	0
69	Back Of Alarm Panel	1.2	38.4	24.04	0
70	North Alarm Panel	1.2	0	0	0
71	NA	NA	NA	NA	NA
72	NA	NA	NA	NA	NA
73	NA	NA	NA	NA	NA
74	NA	NA	NA	NA	NA
75	NA	NA	NA	NA	NA
76	NA	NA	NA	NA	NA
77	NA	NA	NA	NA	NA
78	NA	NA	NA	NA	NA
79	NA	NA	NA	NA	NA
80	NA	NA	NA	NA	NA
81	NA	NA	NA	NA	NA
82	NA	NA	NA	NA	NA
83	NA	NA	NA	NA	NA
84	NA	NA	NA	NA	NA
85	NA	NA	NA	NA	NA
86	NA	NA	NA	NA	NA
87	NA	NA	NA	NA	NA
88	NA	NA	NA	NA	NA
89	NA	NA	NA	NA	NA
90	NA	NA	NA	NA	NA
91	NA	NA	NA	NA	NA
92	NA	NA	NA	NA	NA
93	NA	NA	NA	NA	NA
94	NA	NA	NA	NA	NA
95	NA	NA	NA	NA	NA
96	NA	NA	NA	NA	NA
97	NA	NA	NA	NA	NA
98	NA	NA	NA	NA	NA
99	NA	NA	NA	NA	NA
100	NA	NA	NA	NA	NA
101	NA	NA	NA	NA	NA

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Direct	
		Alpha	Beta	Alpha	Beta
102	NA	NA	NA	NA	NA
103	NA	NA	NA	NA	NA
104	NA	NA	NA	NA	NA
105	NA	NA	NA	NA	NA
106	NA	NA	NA	NA	NA
107	NA	NA	NA	NA	NA
108	NA	NA	NA	NA	NA
109	NA	NA	NA	NA	NA
110	NA	NA	NA	NA	NA
111	NA	NA	NA	NA	NA
112	NA	NA	NA	NA	NA
113	NA	NA	NA	NA	NA
114	NA	NA	NA	NA	NA
115	NA	NA	NA	NA	NA
116	NA	NA	NA	NA	NA
117	NA	NA	NA	NA	NA
118	NA	NA	NA	NA	NA
119	NA	NA	NA	NA	NA
120	NA	NA	NA	NA	NA
121	NA	NA	NA	NA	NA
122	NA	NA	NA	NA	NA
123	NA	NA	NA	NA	NA
124	NA	NA	NA	NA	NA
125	NA	NA	NA	NA	NA
126	NA	NA	NA	NA	NA
127	NA	NA	NA	NA	NA
128	NA	NA	NA	NA	NA
129	NA	NA	NA	NA	NA
130	NA	NA	NA	NA	NA
131	NA	NA	NA	NA	NA
132	NA	NA	NA	NA	NA
133	NA	NA	NA	NA	NA
134	NA	NA	NA	NA	NA
135	NA	NA	NA	NA	NA
136	NA	NA	NA	NA	NA
137	NA	NA	NA	NA	NA
138	NA	NA	NA	NA	NA
139	NA	NA	NA	NA	NA
140	NA	NA	NA	NA	NA
141	NA	NA	NA	NA	NA
142	NA	NA	NA	NA	NA
143	NA	NA	NA	NA	NA
144	NA	NA	NA	NA	NA
145	NA	NA	NA	NA	NA
146	NA	NA	NA	NA	NA
147	NA	NA	NA	NA	NA
148	NA	NA	NA	NA	NA
149	NA	NA	NA	NA	NA
150	NA	NA	NA	NA	NA
151	NA	NA	NA	NA	NA
152	NA	NA	NA	NA	NA

@RAH

Survey Area:	C	Survey Unit:	N/A	Building/Structure:	868

Survey Unit/Area Description: Interior surfaces & Equipment in B868



* Sample locations 41-70 were taken on associated equipment. Location descriptions are documented on RS FORMS 07.02-01.

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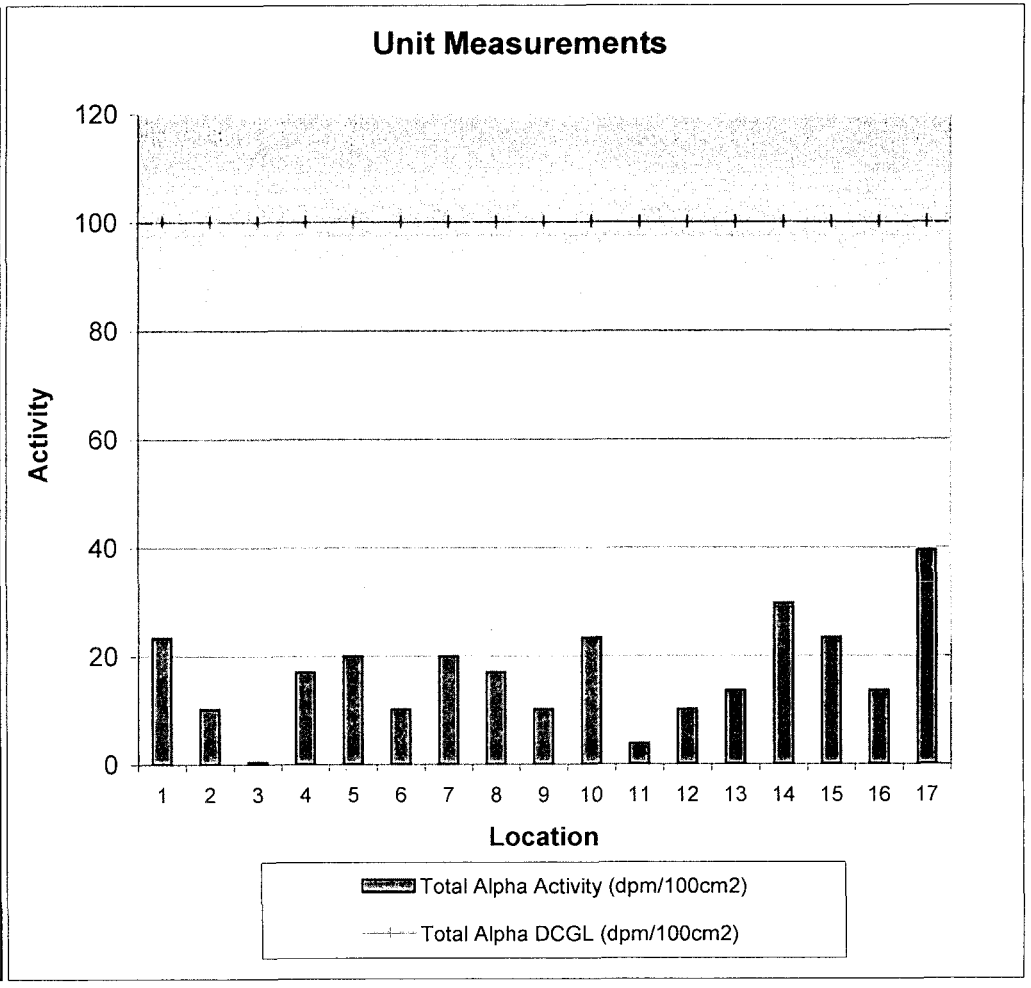
TSA Alpha

865001

6/15/01

				Instrument	392	1420 QA Instrument
standard deviation:	8.1	max:	29.8	Ave. Instrument background:	1.2 cpm	0.7 cpm
mean:	15.5	min:	0.5	Instrument efficiency:	20.5%	21.95%
median:	17.1			Instrument MDA:	33 dpm	31 dpm

	Surface Location	Total Alpha Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Alpha Activity (dpm/100cm^2)	Total Alpha DCGL (dpm/100cm^2)
1	N. section 865 roof.	6.0	0.7	23.4	100
2	N. section 865 roof.	3.3	0.0	10.2	100
3	N. section 865 roof.	1.3	1.3	0.5	100
4	N. section 865 roof.	4.7	2.0	17.1	100
5	N. section 865 roof.	5.3	1.3	20.0	100
6	N. section 865 roof.	3.3	0.7	10.2	100
7	N. section 865 roof.	5.3	2.0	20.0	100
8	N. section 865 roof.	4.7	0.7	17.1	100
9	N. section 865 roof.	3.3	2.7	10.2	100
10	N. section 865 roof.	6.0	1.3	23.4	100
11	N. section 865 roof.	2.0	2.0	3.9	100
12	N. section 865 roof.	3.3	0.0	10.2	100
13	N. section 865 roof.	4.0	2.0	13.7	100
14	N. section 865 roof.	7.3	1.3	29.8	100
15	N. section 865 roof.	6.0	0.0	23.4	100
16	N. section 865 roof.	4.0	2.7	13.7	100
17	N. section 865 roof.	9.3	0.7	39.5	100
1 QC	N. section 865 roof.	2.7	2.0	9.1	100
2 QC	N. section 865 roof.	6.7	3.3	27.3	100



132

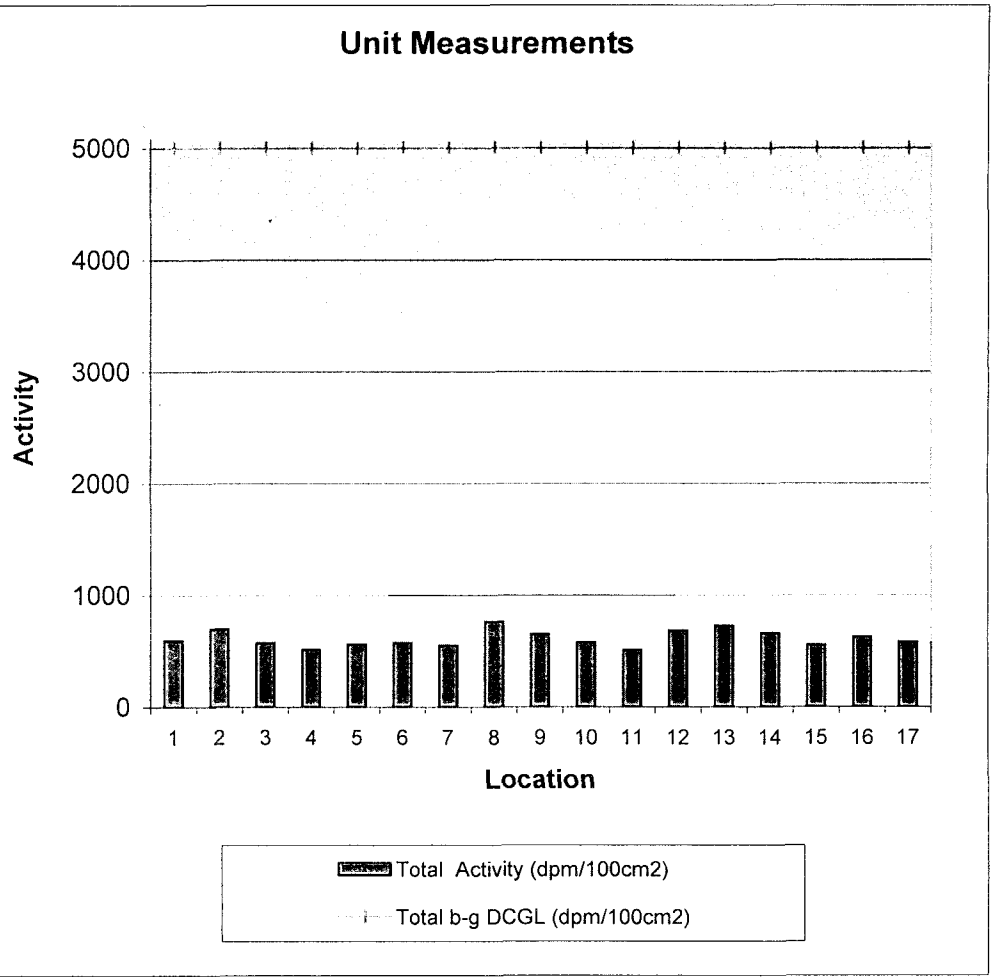
TSA Beta-Gamma

865001

6/15/01

				Instument	392	1420 QA Instrument
standard deviation:	78.5	max:	764.9	Ave. Instrument background:	555.4 cpm	536.0 cpm
mean:	615.6	min:	511.7	Instrument efficiency:	30.8%	33.35%
median:	579.9			Instrument MDA:	288 dpm	276 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Total β–γ DCGL (dpm/100cm^2)
1	N. section 865 roof.	739.0	538.0	596.1	5000
2	N. section 865 roof.	771.0	555.0	700.0	5000
3	N. section 865 roof.	733.0	523.0	576.6	5000
4	N. section 865 roof.	715.0	587.0	518.2	5000
5	N. section 865 roof.	729.0	541.0	563.6	5000
6	N. section 865 roof.	733.0	543.0	576.6	5000
7	N. section 865 roof.	726.0	526.0	553.9	5000
8	N. section 865 roof.	791.0	600.0	764.9	5000
9	N. section 865 roof.	757.0	585.0	654.5	5000
10	N. section 865 roof.	734.0	546.0	579.9	5000
11	N. section 865 roof.	713.0	529.0	511.7	5000
12	N. section 865 roof.	767.0	597.0	687.0	5000
13	N. section 865 roof.	780.0	553.0	729.2	5000
14	N. section 865 roof.	760.0	523.0	664.3	5000
15	N. section 865 roof.	727.0	585.0	557.1	5000
16	N. section 865 roof.	749.0	585.0	628.6	5000
17	N. section 865 roof.	735.0	567.0	583.1	5000
1 QC	N. section 865 roof.	737.0	532.0	602.7	5000
2 QC	N. section 865 roof.	741.0	540.0	614.7	5000



133

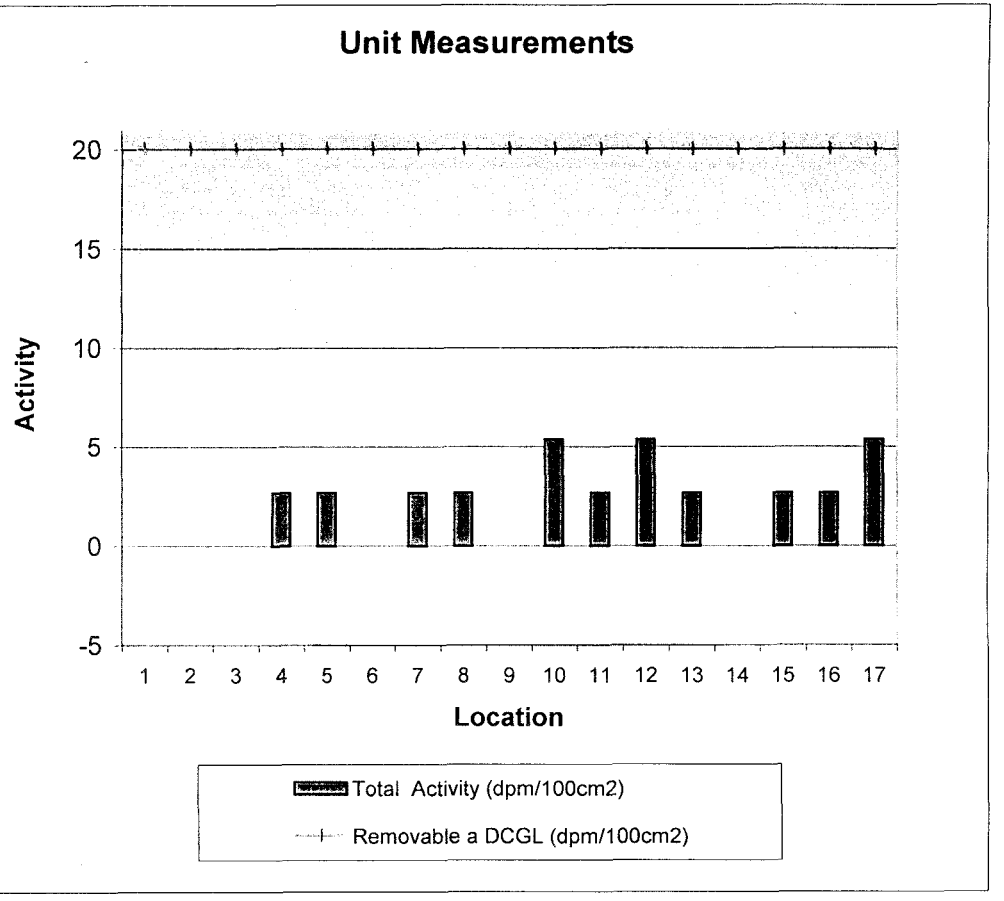
Removable Activity - Alpha

865001

6/15/01

				Instument:	155596
standard deviation:	1.9	max:	5.4	Ave. Instrument background:	0.0 cpm
mean:	2.0	min:	0.0	Instrument efficiency:	37.2%
median:	2.7			Instrument MDA:	8 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	N. section 865 roof.	0.0	0.0	0.0	20
2	N. section 865 roof.	0.0	0.0	0.0	20
3	N. section 865 roof.	0.0	0.0	0.0	20
4	N. section 865 roof.	1.0	0.0	2.7	20
5	N. section 865 roof.	1.0	0.0	2.7	20
6	N. section 865 roof.	0.0	0.0	0.0	20
7	N. section 865 roof.	1.0	0.0	2.7	20
8	N. section 865 roof.	1.0	0.0	2.7	20
9	N. section 865 roof.	0.0	0.0	0.0	20
10	N. section 865 roof.	2.0	0.0	5.4	20
11	N. section 865 roof.	1.0	0.0	2.7	20
12	N. section 865 roof.	2.0	0.0	5.4	20
13	N. section 865 roof.	1.0	0.0	2.7	20
14	N. section 865 roof.	0.0	0.0	0.0	20
15	N. section 865 roof.	1.0	0.0	2.7	20
16	N. section 865 roof.	1.0	0.0	2.7	20
17	N. section 865 roof.	2.0	0.0	5.4	20



134

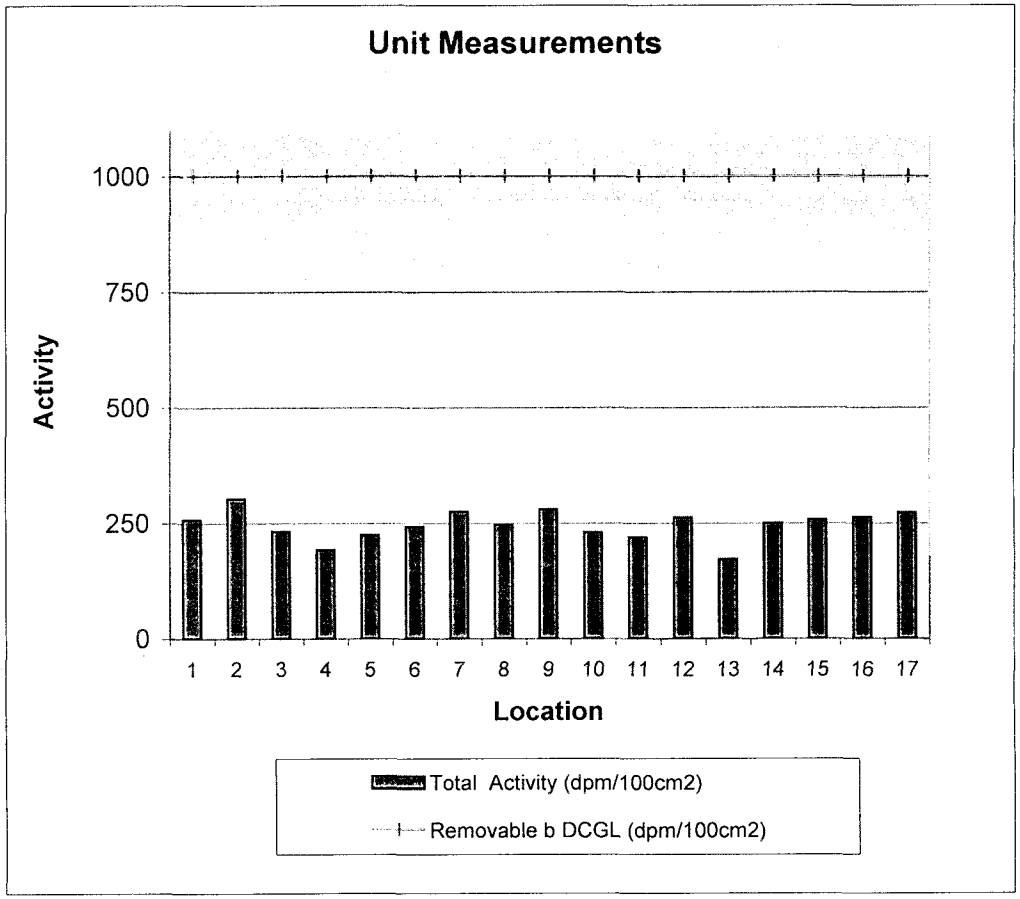
Removable Activity - Beta-Gamma

865001

6/15/01

				Instument:	155596
standard deviation:	33.6	max:	303.5	Ave. Instrument background:	110.8 cpm
mean:	243.6	min:	172.2	Instrument efficiency:	39.6%
median:	248.0			Instrument MDA:	99 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable β DCGL (dpm/100cm^2)
1	N. section 865 roof.	213.0	110.8	258.1	1000
2	N. section 865 roof.	231.0	110.8	303.5	1000
3	N. section 865 roof.	203.0	110.8	232.8	1000
4	N. section 865 roof.	187.0	110.8	192.4	1000
5	N. section 865 roof.	200.0	110.8	225.3	1000
6	N. section 865 roof.	207.0	110.8	242.9	1000
7	N. section 865 roof.	220.0	110.8	275.8	1000
8	N. section 865 roof.	209.0	110.8	248.0	1000
9	N. section 865 roof.	222.0	110.8	280.8	1000
10	N. section 865 roof.	202.0	110.8	230.3	1000
11	N. section 865 roof.	198.0	110.8	220.2	1000
12	N. section 865 roof.	215.0	110.8	263.1	1000
13	N. section 865 roof.	179.0	110.8	172.2	1000
14	N. section 865 roof.	210.0	110.8	250.5	1000
15	N. section 865 roof.	213.0	110.8	258.1	1000
16	N. section 865 roof.	215.0	110.8	263.1	1000
17	N. section 865 roof.	219.0	110.8	273.2	1000



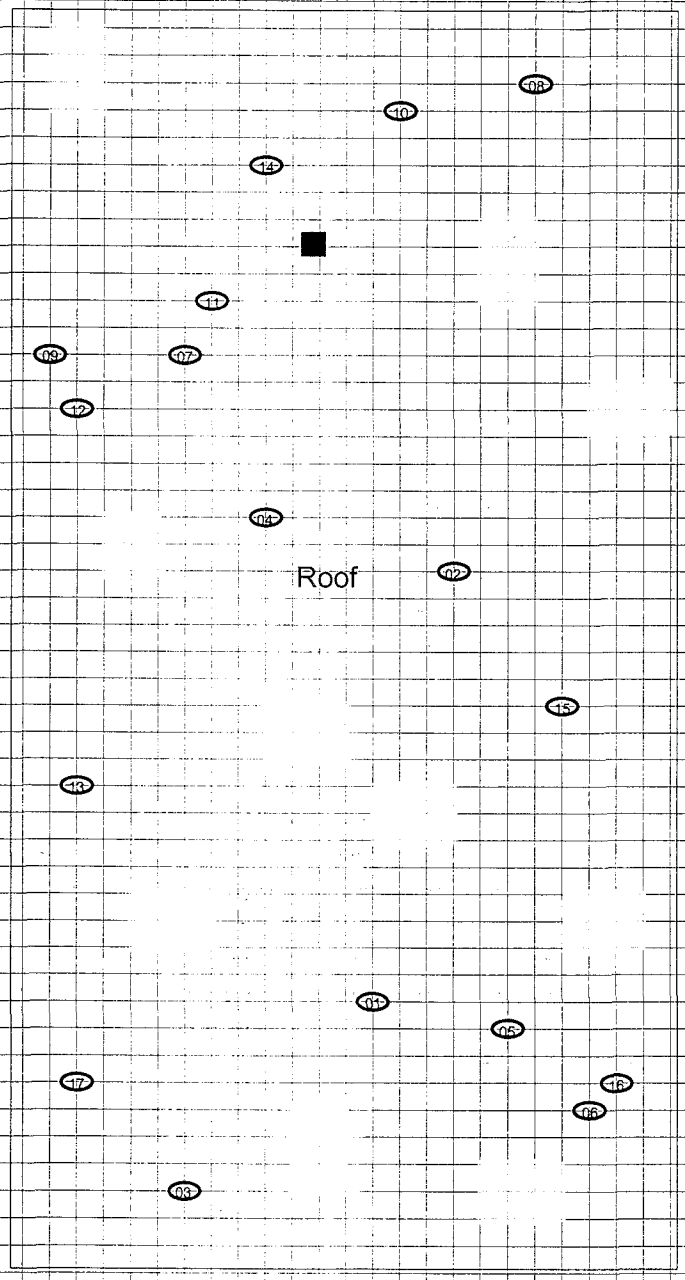
135

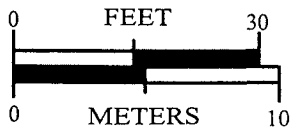
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865001 **Survey Unit: 865001** **Classification: 3**
Building: 865
Survey Unit Description: 865 Single Story Exterior Roof

Total Floor Area: NA **Total Area: 1142 sq. m** **Grid Size: N/A**

SURVEY UNIT 865001 - MAP 1 OF 1





N

SURVEY MAP LEGEND
- # Smear & TSC Location
- # Smear, TSC & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

136

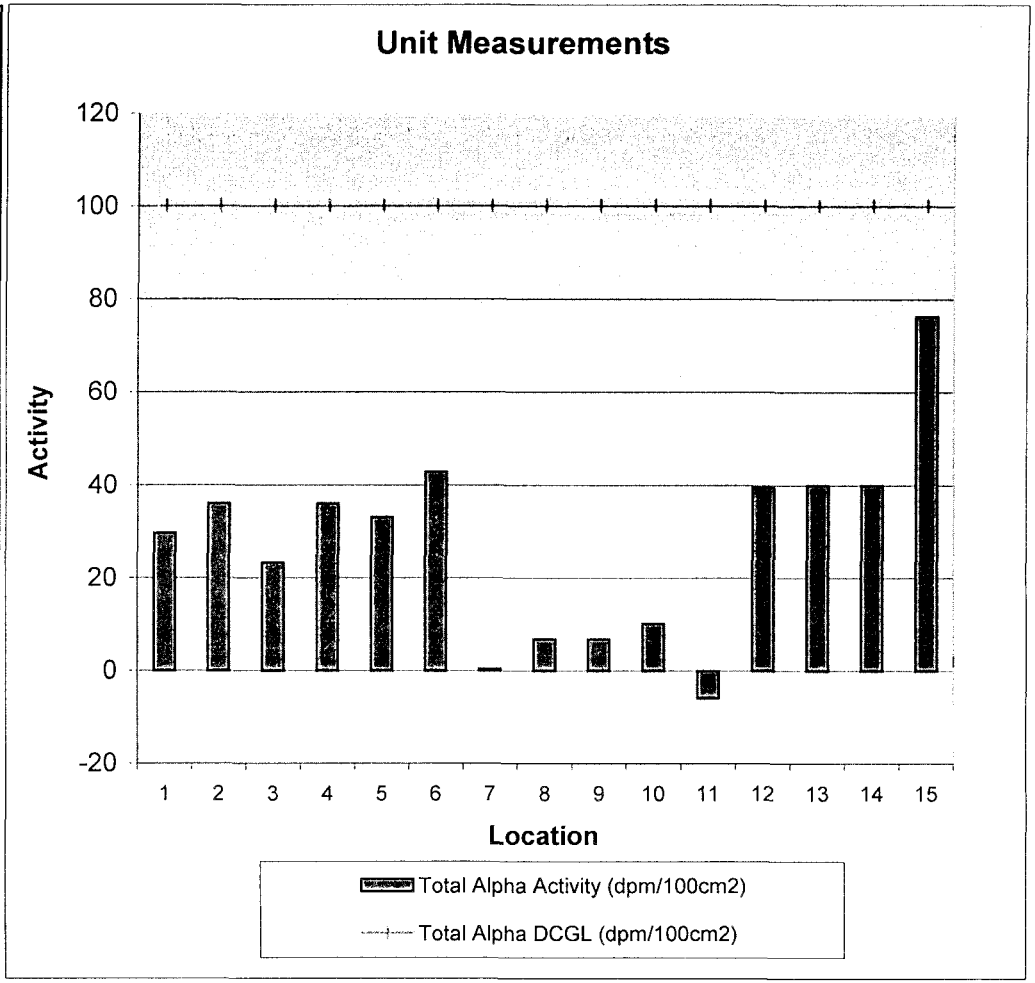
TSA Alpha

865002

7/16/01

				Instument	392 (7/16/01)	3114 (7/17/01)	1513 QA
standard deviation:	21.2	max:	76.3	Ave. Instrument background:	1.9 cpm	1.9 cpm	4.7 cpm
mean:	27.7	min:	-5.9	Instrument efficiency:	20.5%	22.00%	21.00%
median:	33.1			Instrument MDA:	48 dpm	48 dpm	48 dpm

	Surface Location	Total Alpha Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Alpha Activity (dpm/100cm^2)	Total Alpha DCGL (dpm/100cm^2)
1	N. section 865 walls	8.0	0.7	29.7	100
2	N. section 865 walls	9.3	2.0	36.0	100
3	N. section 865 walls	6.7	1.3	23.3	100
4	N. section 865 walls	9.3	2.7	36.0	100
5	N. section 865 walls	8.7	2.0	33.1	100
6	N. section 865 walls	10.7	2.0	42.9	100
7	N. section 865 walls	2.0	1.3	0.4	100
8	N. section 865 walls	3.3	1.3	6.8	100
9	N. section 865 walls	3.3	2.0	6.8	100
10	N. section 865 walls	4.0	2.0	10.2	100
11	N. section 865 walls	0.7	2.7	-5.9	100
12	N. section 865 walls	10.0	1.3	39.4	100
13	N. section 865 walls	10.7	2.7	39.9	100
14	N. section 865 walls	10.7	2.0	39.9	100
15	N. section 865 walls	18.7	2.7	76.3	100
7 QC	N. section 865 walls	7.3	1.3	12.6	100
9 QC	N. section 865 walls	8.0	8.0	16.0	100



137

TSA Beta-Gamma

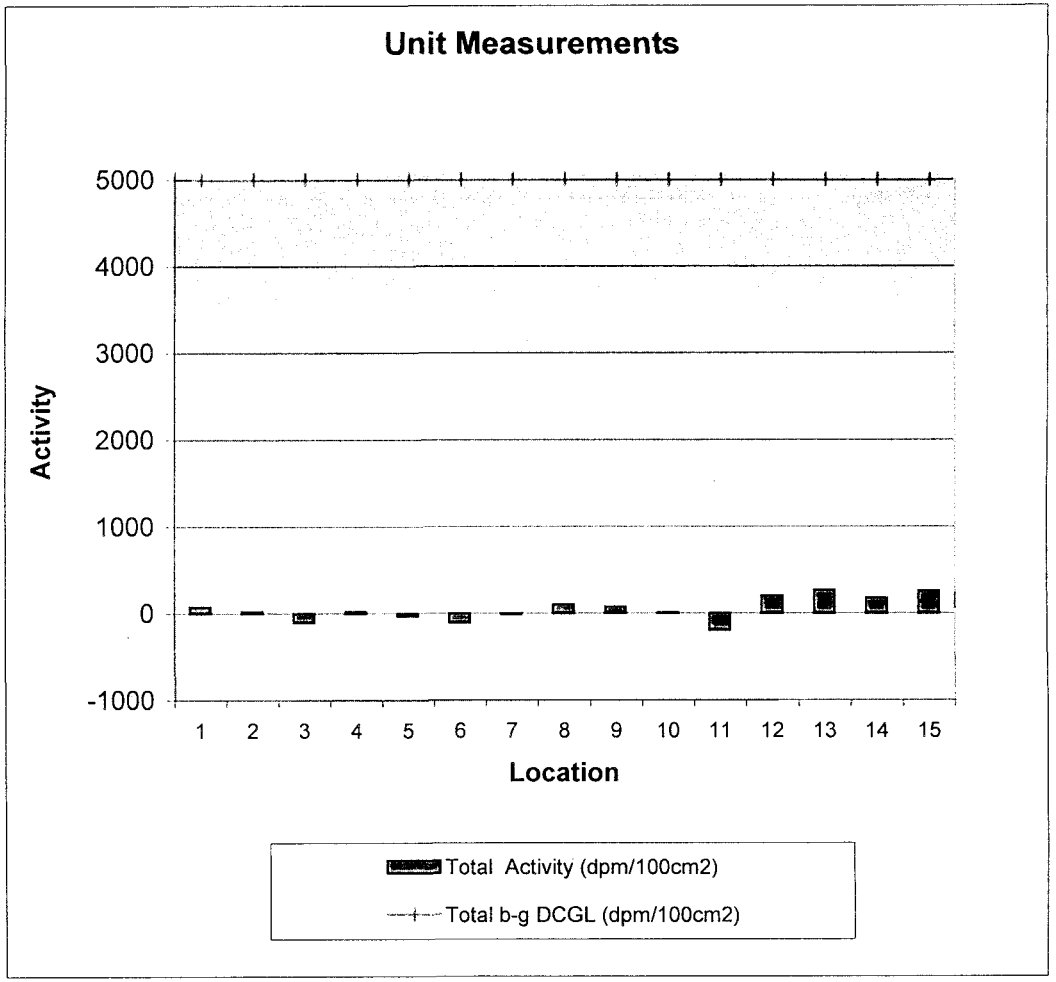
865002

7/16/01

standard deviation:	133.9	max:	268.1
mean:	51.0	min:	-195.2
median:	22.3		

Instument	392 (7/16/01)	3114 (7/17/01)	1513
Ave. Instrument background:	550.1 cpm	550.1 cpm	579.5 cpm
Instrument efficiency:	30.8%	32.40%	32.00%
Instrument MDA:	267 dpm	234 dpm	211 dpm

	Surface Location	Total Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Total β–γ DCGL (dpm/100cm²)
1	N. section 865 walls	573.0	541.0	74.2	5000
2	N. section 865 walls	557.0	529.0	22.3	5000
3	N. section 865 walls	519.0	525.0	-101.1	5000
4	N. section 865 walls	557.0	484.0	22.3	5000
5	N. section 865 walls	541.0	512.0	-29.7	5000
6	N. section 865 walls	519.0	505.0	-101.1	5000
7	N. section 865 walls	547.0	548.0	-10.2	5000
8	N. section 865 walls	581.0	562.0	100.2	5000
9	N. section 865 walls	573.0	495.0	74.2	5000
10	N. section 865 walls	553.0	579.0	9.3	5000
11	N. section 865 walls	490.0	548.0	-195.2	5000
12	N. section 865 walls	612.0	685.0	200.9	5000
13	N. section 865 walls	637.0	623.0	268.1	5000
14	N. section 865 walls	607.0	579.0	175.5	5000
15	N. section 865 walls	633.0	537.0	255.8	5000
7 QC	N. section 865 walls	537.0	534.0	-132.8	5000
9 QC	N. section 865 walls	531.0	625.0	-151.6	5000



135

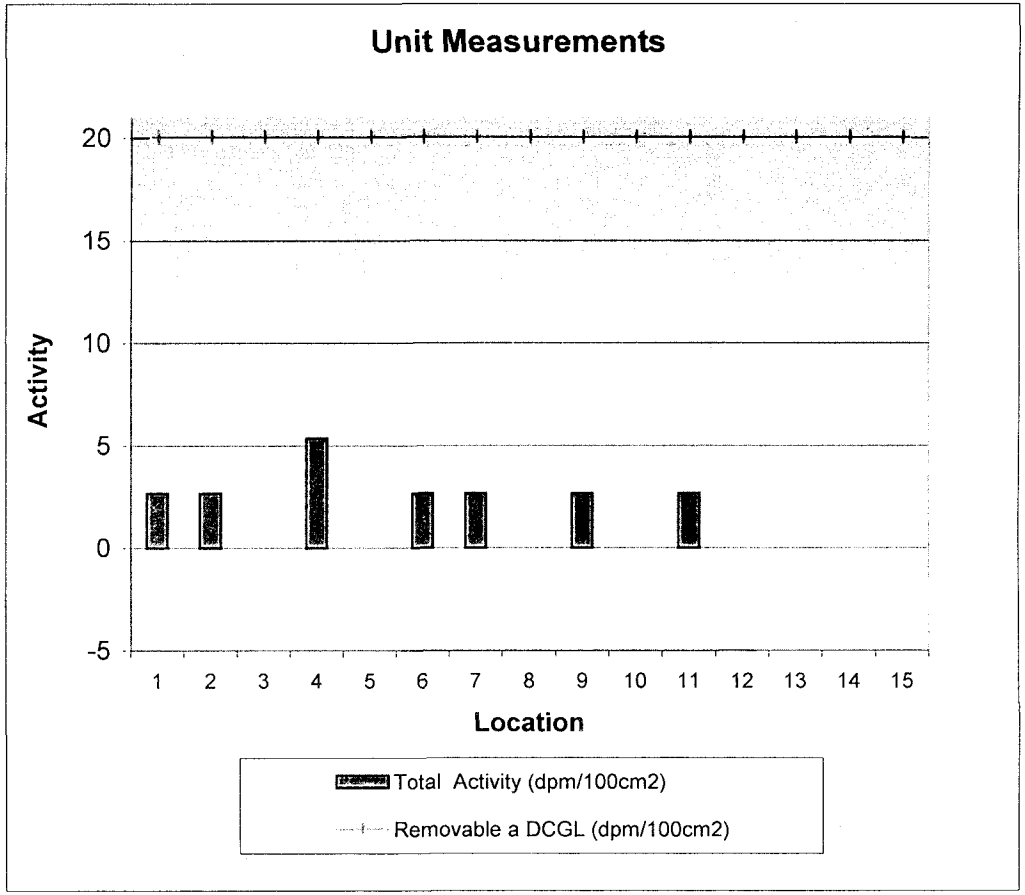
Removable Activity - Alpha

865002

7/16/01

				Instument:	155596
standard deviation:	1.7	max:	5.4	Ave. Instrument background:	0.0 cpm
mean:	1.4	min:	0.0	Instrument efficiency:	37.2%
median:	0.0			Instrument MDA:	4 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	N. section 865 walls	1.0	0.0	2.7	20
2	N. section 865 walls	1.0	0.0	2.7	20
3	N. section 865 walls	0.0	0.0	0.0	20
4	N. section 865 walls	2.0	0.0	5.4	20
5	N. section 865 walls	0.0	0.0	0.0	20
6	N. section 865 walls	1.0	0.0	2.7	20
7	N. section 865 walls	1.0	0.0	2.7	20
8	N. section 865 walls	0.0	0.0	0.0	20
9	N. section 865 walls	1.0	0.0	2.7	20
10	N. section 865 walls	0.0	0.0	0.0	20
11	N. section 865 walls	1.0	0.0	2.7	20
12	N. section 865 walls	0.0	0.0	0.0	20
13	N. section 865 walls	0.0	0.0	0.0	20
14	N. section 865 walls	0.0	0.0	0.0	20
15	N. section 865 walls	0.0	0.0	0.0	20



159

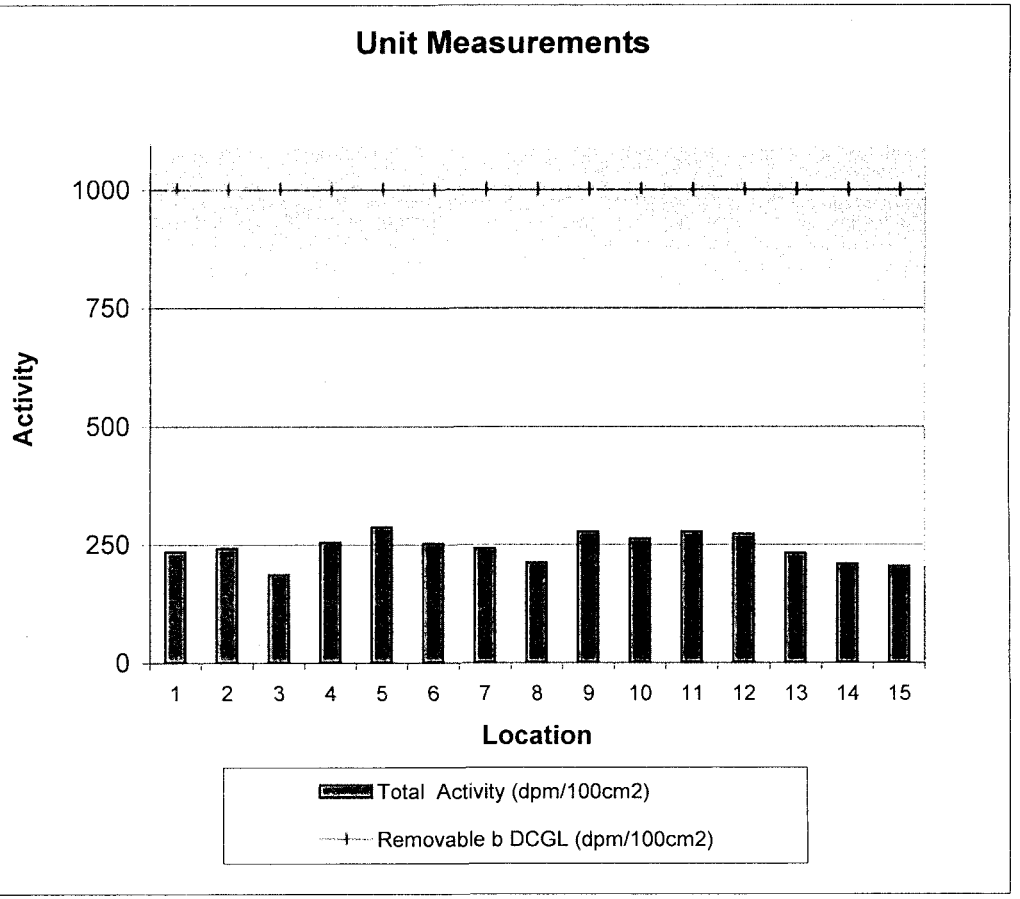
Removable Activity - Beta-Gamma

865002

7/16/01

				Instument:	155596
standard deviation:	30.3	max:	287.9	Ave. Instrument background:	100.0 cpm
mean:	243.4	min:	186.9	Instrument efficiency:	39.6%
median:	242.4			Instrument MDA:	68 dpm

	Surface Location	Total Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Removable β DCGL (dpm/100cm²)
1	N. section 865 walls	193.0	100.0	234.8	1000
2	N. section 865 walls	196.0	100.0	242.4	1000
3	N. section 865 walls	174.0	100.0	186.9	1000
4	N. section 865 walls	201.0	100.0	255.1	1000
5	N. section 865 walls	214.0	100.0	287.9	1000
6	N. section 865 walls	200.0	100.0	252.5	1000
7	N. section 865 walls	196.0	100.0	242.4	1000
8	N. section 865 walls	184.0	100.0	212.1	1000
9	N. section 865 walls	210.0	100.0	277.8	1000
10	N. section 865 walls	204.0	100.0	262.6	1000
11	N. section 865 walls	210.0	100.0	277.8	1000
12	N. section 865 walls	208.0	100.0	272.7	1000
13	N. section 865 walls	192.0	100.0	232.3	1000
14	N. section 865 walls	183.0	100.0	209.6	1000
15	N. section 865 walls	181.0	100.0	204.5	1000
16					
17					



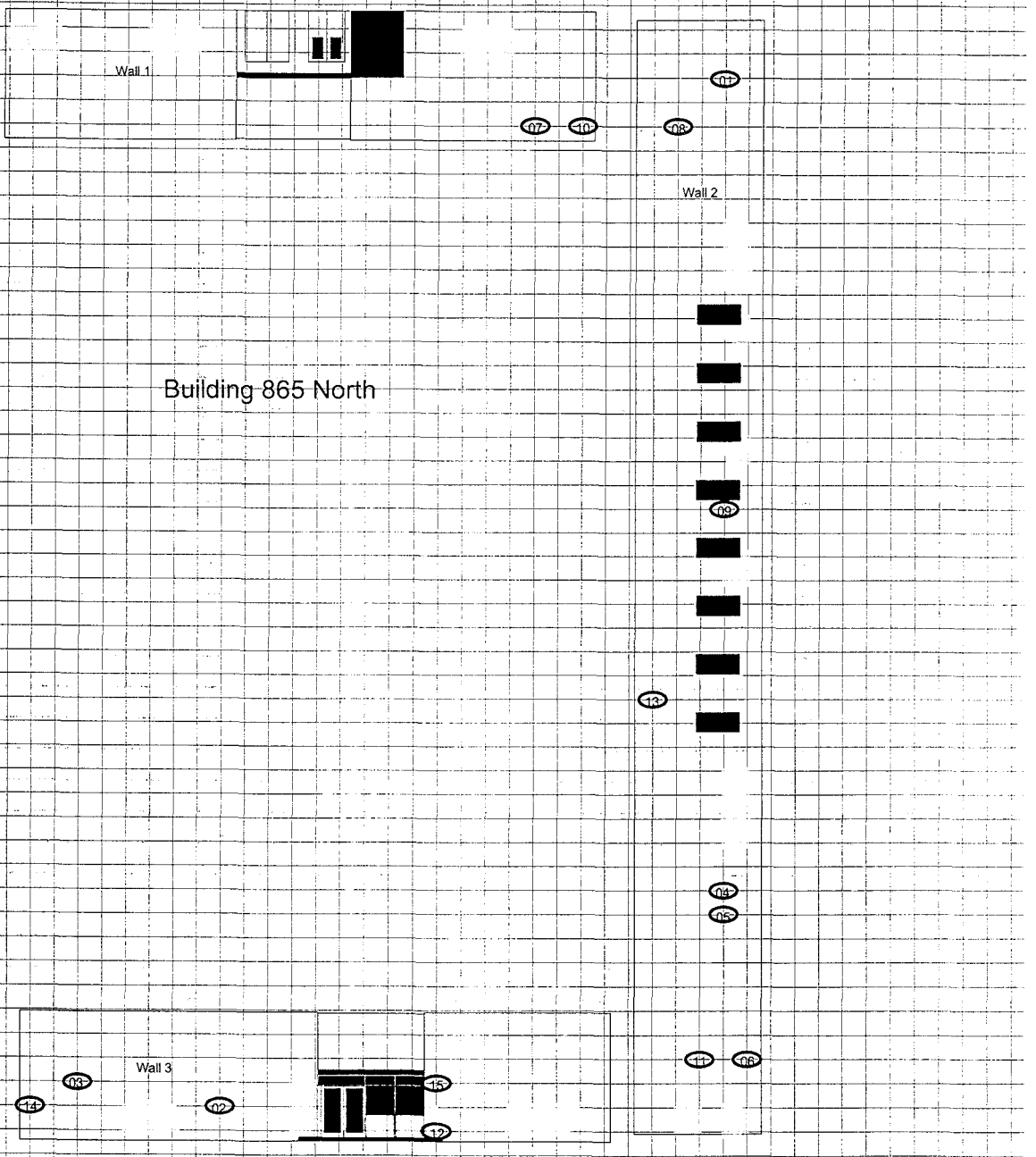
14C

RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865002 **Survey Unit: 865002** **Classification: 3**
Building: 865
Survey Unit Description: Exterior

Total Floor Area: NA **Total Area: 481 sq. m** **Grid Size: N/A**

SURVEY UNIT 865002 - MAP 1 OF 1



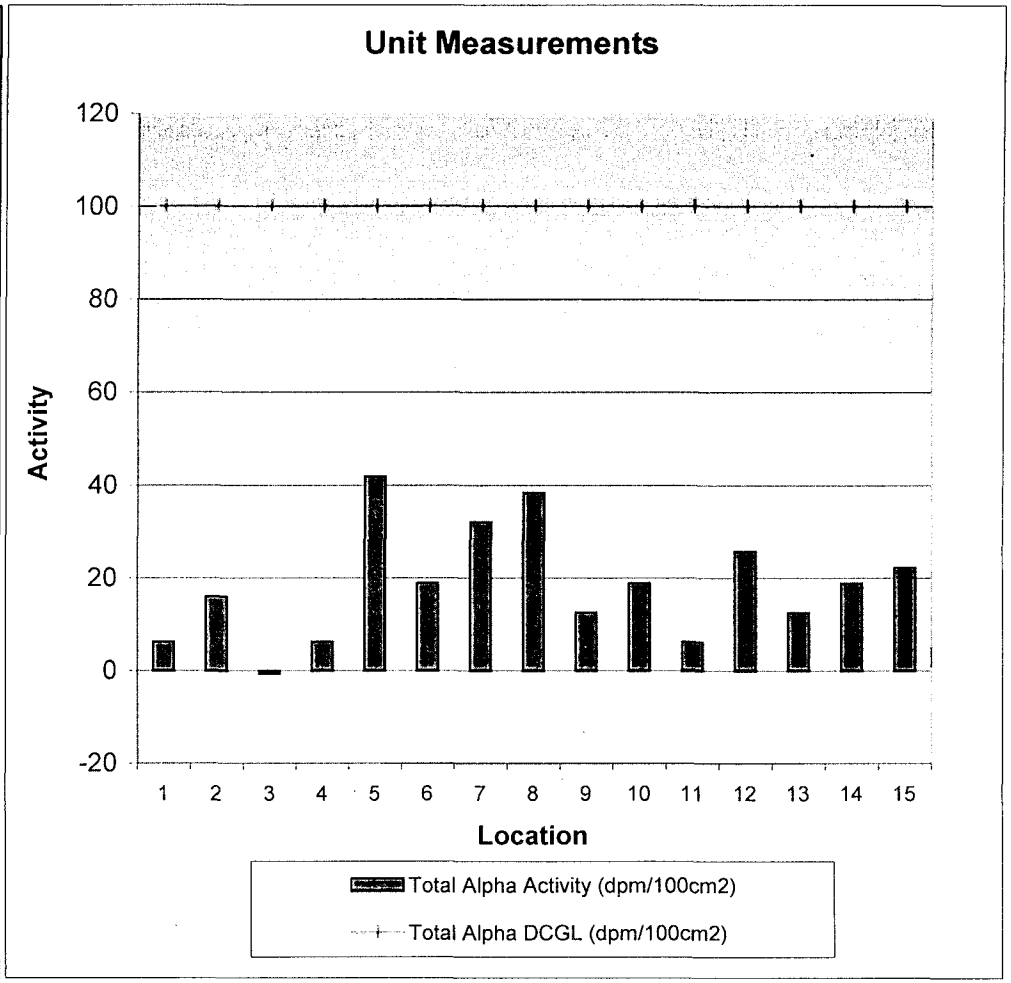
TSA Alpha

865003

6/20/01

				Instument	392	1420
standard deviation:	12.2	max:	41.8	Ave. Instrument background:	1.4 cpm	2.0 cpm
mean:	18.4	min:	-0.6	Instrument efficiency:	20.5%	21.95%
median:	18.9			Instrument MDA:	33 dpm	24 dpm

	Surface Location	Total Alpha Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Alpha Activity (dpm/100cm^2)	Total Alpha DCGL (dpm/100cm^2)
1	N. section 865 roof	2.7	1.3	6.2	100
2	N. section 865 roof	4.7	0.7	16.0	100
3	N. section 865 roof	1.3	0.7	-0.6	100
4	N. section 865 roof	2.7	0.7	6.2	100
5	N. section 865 roof	10.0	2.7	41.8	100
6	N. section 865 roof	5.3	0.7	18.9	100
7	N. section 865 roof	8.0	0.0	32.1	100
8	N. section 865 roof	9.3	2.7	38.4	100
9	N. section 865 roof	4.0	1.3	12.6	100
10	N. section 865 roof	5.3	2.0	18.9	100
11	N. section 865 roof	2.7	3.3	6.2	100
12	N. section 865 roof	6.7	1.3	25.7	100
13	N. section 865 roof	4.0	0.7	12.6	100
14	N. section 865 roof	5.3	1.3	18.9	100
15	N. section 865 roof	6.0	2.0	22.3	100
2 QC	N. section 865 roof	3.3	2.0	5.9	100
3 QC	N. section 865 roof	3.3	2.0	5.9	100



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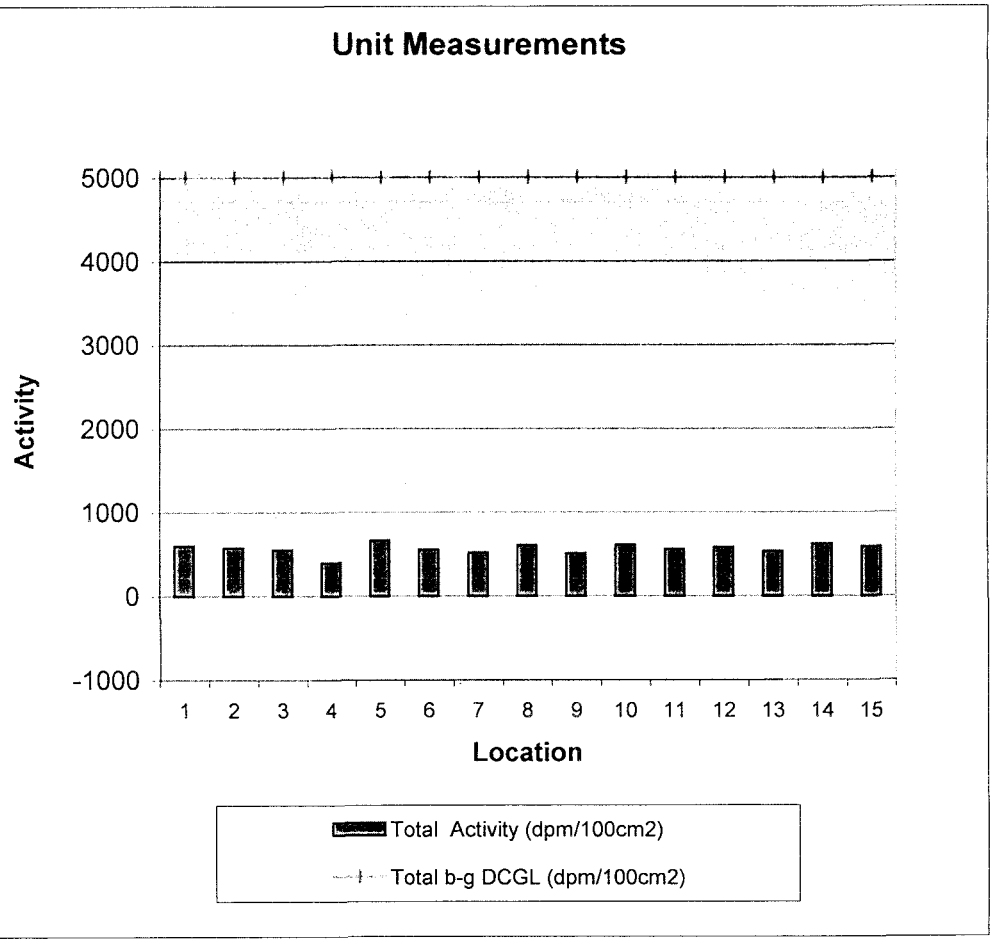
TSA Beta-Gamma

865003

6/20/01

				Instument	392	1420
standard deviation:	63.0	max:	664.3	Ave. Instrument background:	526.4 cpm	509.5 cpm
mean:	564.3	min:	391.6	Instrument efficiency:	30.8%	33.35%
median:	576.6			Instrument MDA:	282 dpm	277 dpm

	Surface Location	Total Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Total β–γ DCGL (dpm/100cm²)
1	N. section 865 roof	711.0	536.0	599.4	5000
2	N. section 865 roof	704.0	535.0	576.6	5000
3	N. section 865 roof	697.0	531.0	553.9	5000
4	N. section 865 roof	647.0	535.0	391.6	5000
5	N. section 865 roof	731.0	519.0	664.3	5000
6	N. section 865 roof	697.0	555.0	553.9	5000
7	N. section 865 roof	686.0	454.0	518.2	5000
8	N. section 865 roof	713.0	533.0	605.8	5000
9	N. section 865 roof	683.0	513.0	508.4	5000
10	N. section 865 roof	714.0	549.0	609.1	5000
11	N. section 865 roof	698.0	537.0	557.1	5000
12	N. section 865 roof	705.0	522.0	579.9	5000
13	N. section 865 roof	691.0	499.0	534.4	5000
14	N. section 865 roof	718.0	523.0	622.1	5000
15	N. section 865 roof	708.0	555.0	589.6	5000
2 QC	N. section 865 roof	717.0	500.0	622.2	5000
3 QC	N. section 865 roof	867.0	519.0	1072.0	5000



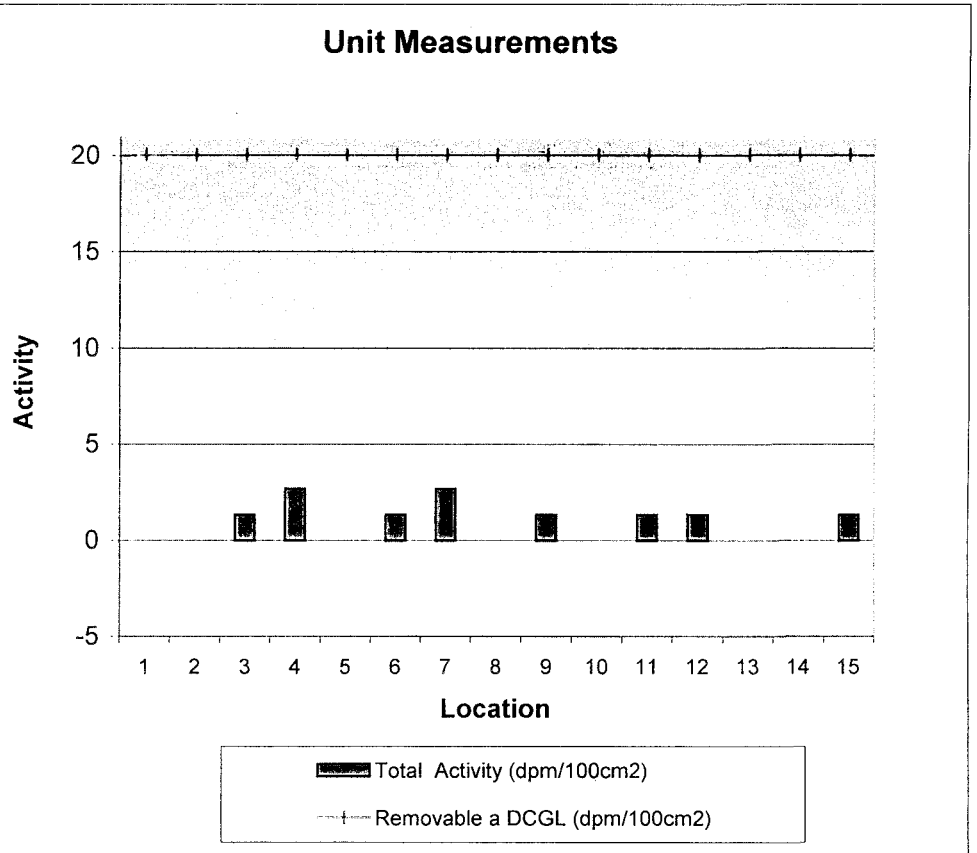
Removable Activity - Alpha

865003

6/20/01

				Instument:	155596
standard deviation:	1.0	max:	2.7	Instrument background:	0.0 cpm
mean:	0.9	min:	0.0	Instrument efficiency:	37.2%
median:	1.3			Instrument MDA:	8 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	N. section 865 roof	0.0	0.0	0.0	20
2	N. section 865 roof	0.0	0.0	0.0	20
3	N. section 865 roof	0.5	0.0	1.3	20
4	N. section 865 roof	1.0	0.0	2.7	20
5	N. section 865 roof	0.0	0.0	0.0	20
6	N. section 865 roof	0.5	0.0	1.3	20
7	N. section 865 roof	1.0	0.0	2.7	20
8	N. section 865 roof	0.0	0.0	0.0	20
9	N. section 865 roof	0.5	0.0	1.3	20
10	N. section 865 roof	0.0	0.0	0.0	20
11	N. section 865 roof	0.5	0.0	1.3	20
12	N. section 865 roof	0.5	0.0	1.3	20
13	N. section 865 roof	0.0	0.0	0.0	20
14	N. section 865 roof	0.0	0.0	0.0	20
15	N. section 865 roof	0.5	0.0	1.3	20



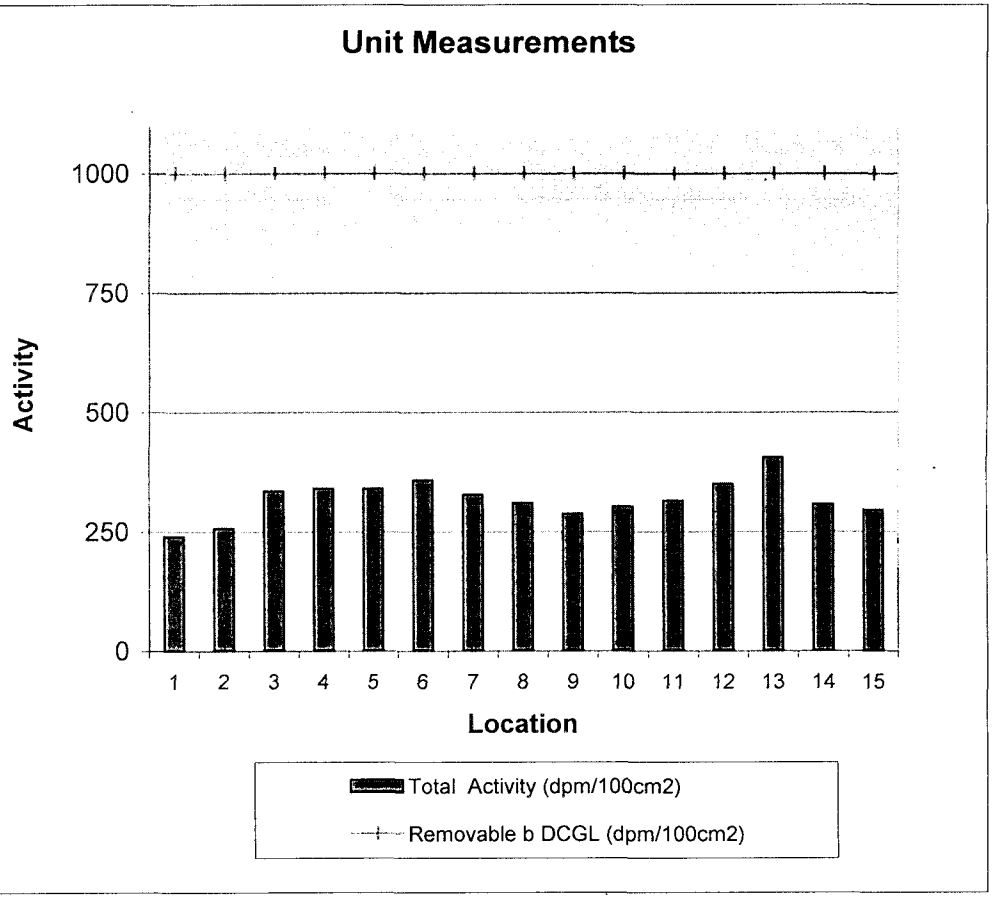
Removable Activity - Beta-Gamma

865003

6/20/01

				Instument:	155596
standard deviation:	41.1	max:	406.3	Instrument background:	85.1 cpm
mean:	318.4	min:	239.6	Instrument efficiency:	39.6%
median:	315.4			Instrument MDA:	88 dpm

	Surface Location	Total Counts (cpm/100cm²)	Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Removable β DCGL (dpm/100cm²)
1	N. section 865 roof	180.0	85.1	239.6	1000
2	N. section 865 roof	187.0	85.1	257.3	1000
3	N. section 865 roof	218.0	85.1	335.6	1000
4	N. section 865 roof	220.0	85.1	340.7	1000
5	N. section 865 roof	220.0	85.1	340.7	1000
6	N. section 865 roof	227.0	85.1	358.3	1000
7	N. section 865 roof	215.0	85.1	328.0	1000
8	N. section 865 roof	208.0	85.1	310.4	1000
9	N. section 865 roof	199.0	85.1	287.6	1000
10	N. section 865 roof	205.0	85.1	302.8	1000
11	N. section 865 roof	210.0	85.1	315.4	1000
12	N. section 865 roof	224.0	85.1	350.8	1000
13	N. section 865 roof	246.0	85.1	406.3	1000
14	N. section 865 roof	207.0	85.1	307.8	1000
15	N. section 865 roof	202.0	85.1	295.2	1000
16					
17					



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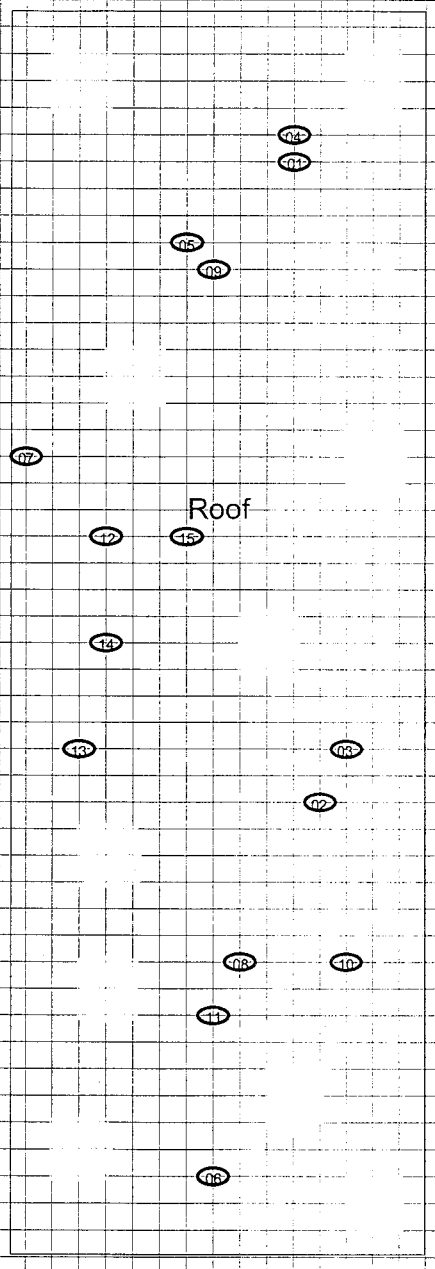
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865003 **Survey Unit: 865003** **Classification: 3**
Building: 865
Survey Unit Description: Process Building Exterior Roof (north end)

Total Floor Area: NA **Total Area: 718 sq. m** **Grid Size: N/A**

SURVEY UNIT 865003 - MAP 1 OF 1



0 FEET 30
0 METERS 10

N

SURVEY MAP LEGEND
- # Smear & TSC Location
- # Smear, TSC & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

146

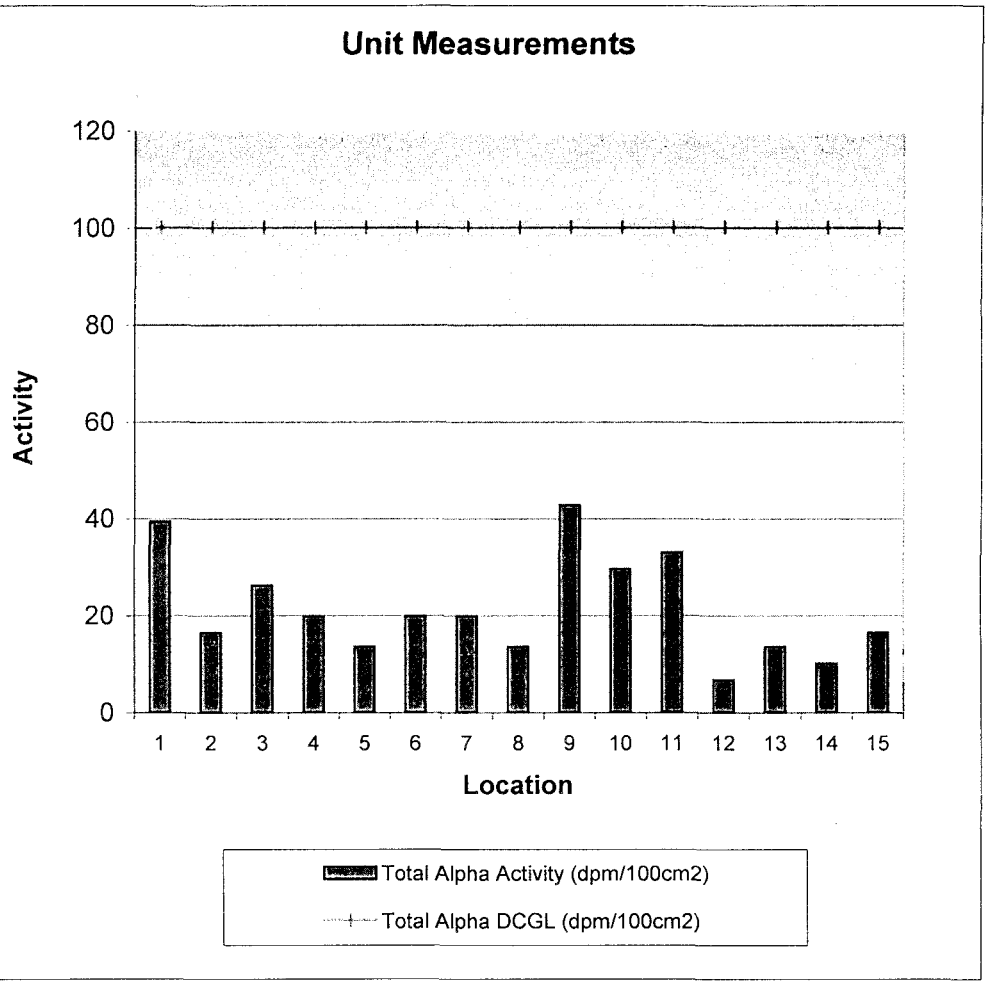
TSA Alpha

865004

6/26/01

				Instument	392	1420
standard deviation:	10.7	max:	42.9	Ave. Instrument background:	1.9 cpm	2.4 cpm
mean:	21.5	min:	6.8	Instrument efficiency:	20.5%	21.95%
median:	19.9			Instrument MDA:	33 dpm	37 dpm

	Surface Location	Total Alpha Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Alpha Activity (dpm/100cm²)	Total Alpha DCGL (dpm/100cm²)
1	Ctr. section 865 roof	10.0	1.3	39.4	100
2	Ctr. section 865 roof	5.3	5.3	16.5	100
3	Ctr. section 865 roof	7.3	1.3	26.3	100
4	Ctr. section 865 roof	6.0	0.7	19.9	100
5	Ctr. section 865 roof	4.7	1.3	13.6	100
6	Ctr. section 865 roof	6.0	0.7	19.9	100
7	Ctr. section 865 roof	6.0	1.3	19.9	100
8	Ctr. section 865 roof	4.7	0.7	13.6	100
9	Ctr. section 865 roof	10.7	2.7	42.9	100
10	Ctr. section 865 roof	8.0	2.0	29.7	100
11	Ctr. section 865 roof	8.7	0.0	33.1	100
12	Ctr. section 865 roof	3.3	2.7	6.8	100
13	Ctr. section 865 roof	4.7	2.7	13.6	100
14	Ctr. section 865 roof	4.0	4.7	10.2	100
15	Ctr. section 865 roof	5.3	1.3	16.5	100
3 QC	Ctr. section 865 roof	5.3	2.0	13.4	100
7 QC	Ctr. section 865 roof	1.3	2.7	-4.8	100



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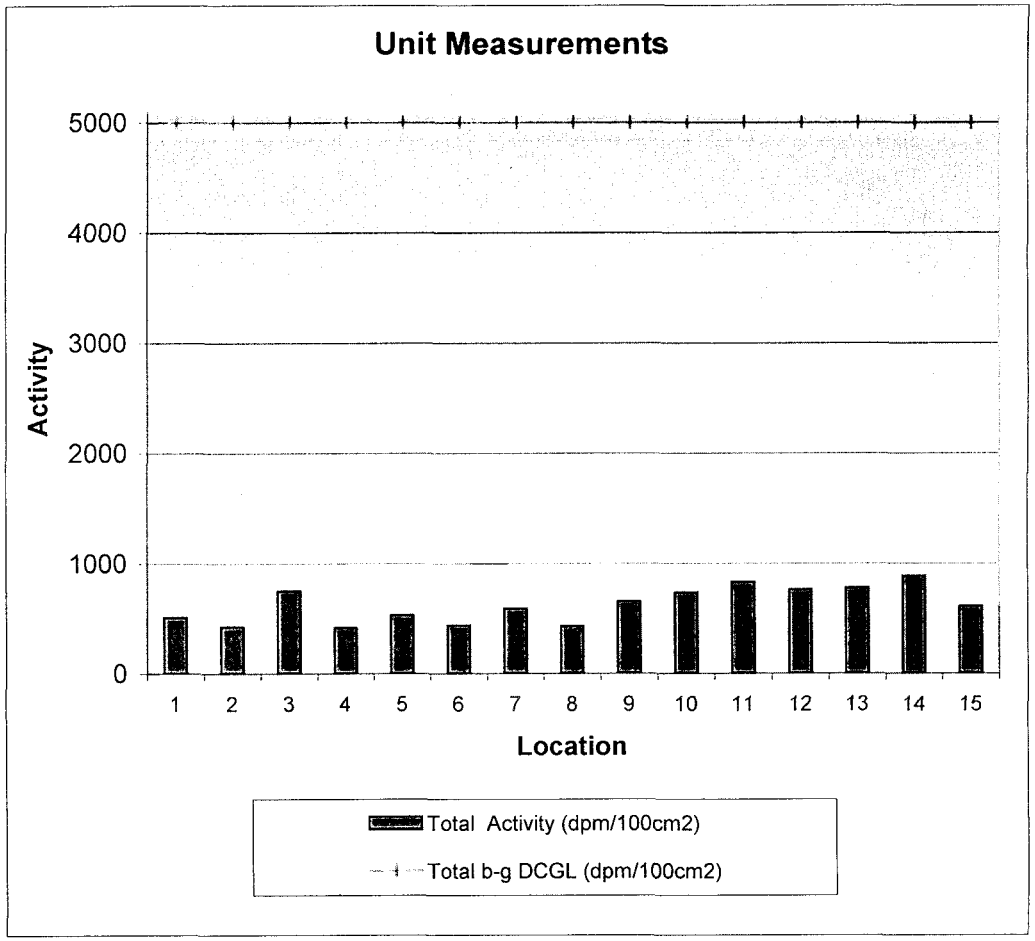
TSA Beta-Gamma

865004

6/26/01

				Instument	392	1420
standard deviation:	160.2	max:	885.3	Ave. Instrument background:	537.3 cpm	490.0 cpm
mean:	625.5	min:	421.0	Instrument efficiency:	30.8%	33.35%
median:	612.6			Instrument MDA:	268 dpm	277 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Total β–γ DCGL (dpm/100cm^2)
1	Ctr. section 865 roof	695.0	515.0	511.9	5000
2	Ctr. section 865 roof	669.0	515.0	427.5	5000
3	Ctr. section 865 roof	769.0	529.0	752.2	5000
4	Ctr. section 865 roof	667.0	529.0	421.0	5000
5	Ctr. section 865 roof	702.0	513.0	534.6	5000
6	Ctr. section 865 roof	673.0	494.0	440.5	5000
7	Ctr. section 865 roof	720.0	523.0	593.1	5000
8	Ctr. section 865 roof	670.0	579.0	430.7	5000
9	Ctr. section 865 roof	740.0	545.0	658.0	5000
10	Ctr. section 865 roof	765.0	516.0	739.2	5000
11	Ctr. section 865 roof	794.0	559.0	833.3	5000
12	Ctr. section 865 roof	773.0	577.0	765.2	5000
13	Ctr. section 865 roof	777.0	561.0	778.1	5000
14	Ctr. section 865 roof	810.0	553.0	885.3	5000
15	Ctr. section 865 roof	726.0	552.0	612.6	5000
3 QC	Ctr. section 865 roof	725.0	488.0	704.6	5000
7 QC	Ctr. section 865 roof	651.0	492.0	482.8	5000



148

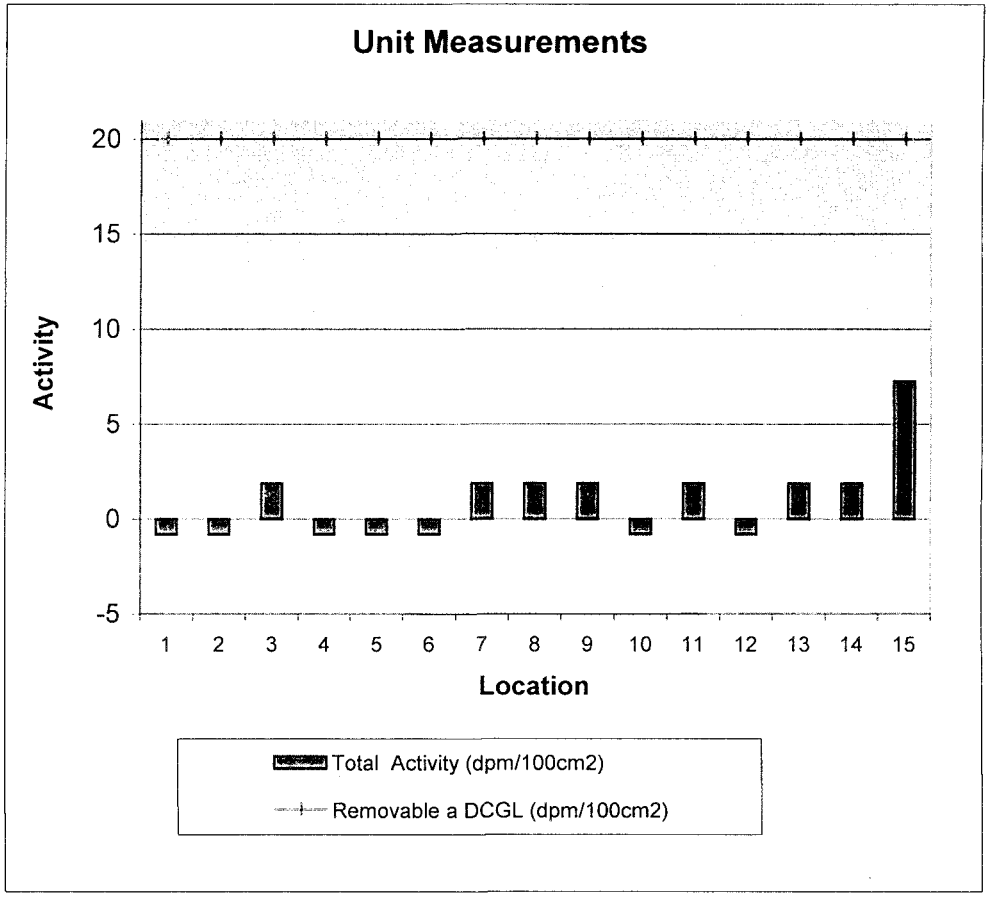
Removable Activity - Alpha

865004

6/26/01

				Instument:	155596
standard deviation:	2.2	max:	7.3	Instrument background:	0.3 cpm
mean:	1.0	min:	-0.8	Instrument efficiency:	37.2%
median:	1.9			Instrument MDA:	13 dpm

	Surface Location	Total Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Removable α DCGL (dpm/100cm²)
1	Ctr. section 865 roof	0.0	0.3	-0.8	20
2	Ctr. section 865 roof	0.0	0.3	-0.8	20
3	Ctr. section 865 roof	1.0	0.3	1.9	20
4	Ctr. section 865 roof	0.0	0.3	-0.8	20
5	Ctr. section 865 roof	0.0	0.3	-0.8	20
6	Ctr. section 865 roof	0.0	0.3	-0.8	20
7	Ctr. section 865 roof	1.0	0.3	1.9	20
8	Ctr. section 865 roof	1.0	0.3	1.9	20
9	Ctr. section 865 roof	1.0	0.3	1.9	20
10	Ctr. section 865 roof	0.0	0.3	-0.8	20
11	Ctr. section 865 roof	1.0	0.3	1.9	20
12	Ctr. section 865 roof	0.0	0.3	-0.8	20
13	Ctr. section 865 roof	1.0	0.3	1.9	20
14	Ctr. section 865 roof	1.0	0.3	1.9	20
15	Ctr. section 865 roof	3.0	0.3	7.3	20



144

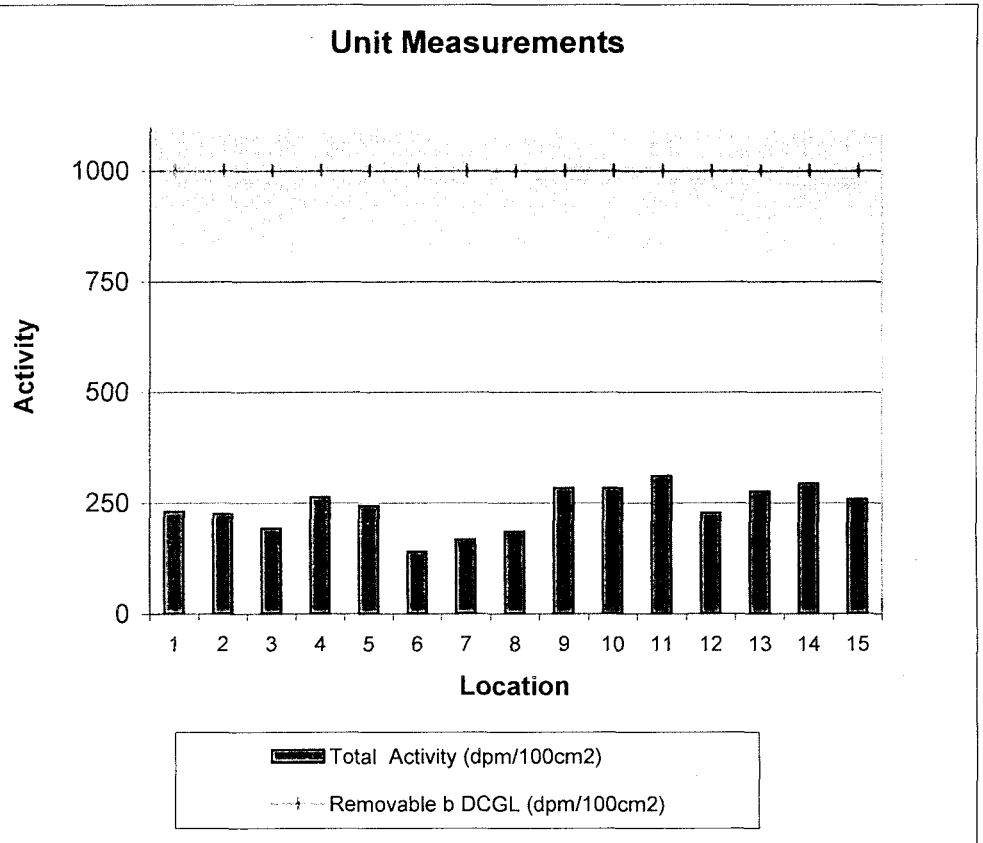
Removable Activity - Beta-Gamma

865004

6/26/01

				Instument:	155596
standard deviation:	50.0	max:	312.1	Instrument background:	98.4 cpm
mean:	239.6	min:	140.4	Instrument efficiency:	39.6%
median:	243.9			Instrument MDA:	94 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable β DCGL (dpm/100cm^2)
1	Ctr. section 865 roof	190.0	98.4	231.3	1000
2	Ctr. section 865 roof	188.0	98.4	226.3	1000
3	Ctr. section 865 roof	175.0	98.4	193.4	1000
4	Ctr. section 865 roof	203.0	98.4	264.1	1000
5	Ctr. section 865 roof	195.0	98.4	243.9	1000
6	Ctr. section 865 roof	154.0	98.4	140.4	1000
7	Ctr. section 865 roof	165.0	98.4	168.2	1000
8	Ctr. section 865 roof	172.0	98.4	185.9	1000
9	Ctr. section 865 roof	211.0	98.4	284.3	1000
10	Ctr. section 865 roof	211.0	98.4	284.3	1000
11	Ctr. section 865 roof	222.0	98.4	312.1	1000
12	Ctr. section 865 roof	189.0	98.4	228.8	1000
13	Ctr. section 865 roof	208.0	98.4	276.8	1000
14	Ctr. section 865 roof	215.0	98.4	294.4	1000
15	Ctr. section 865 roof	201.0	98.4	259.1	1000
16					
17					



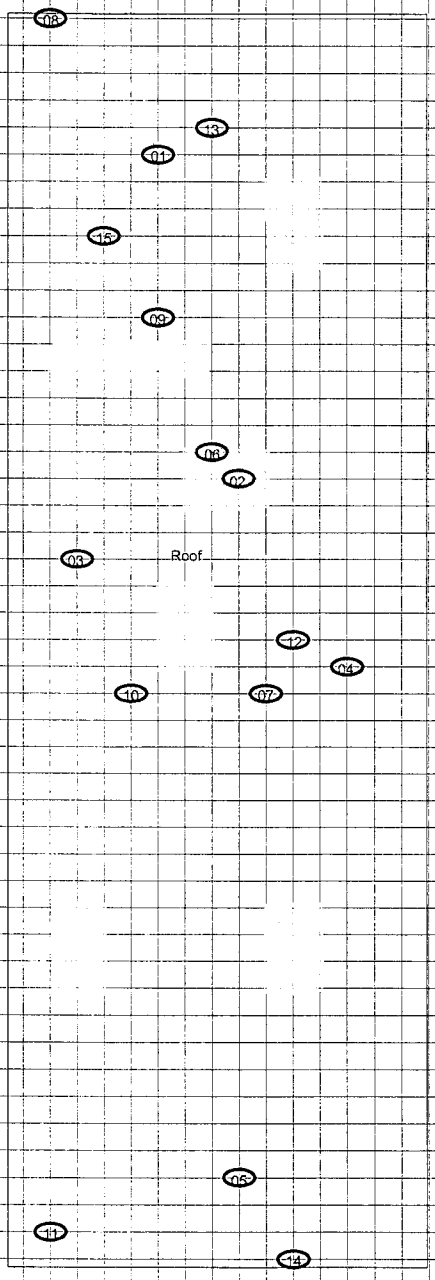
150

RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865004 **Survey Unit: 865004** **Classification: 3**
Building: 865
Survey Unit Description: 865 Process Building Roof Exterior (center)

Total Floor Area: xxx sq. m **Total Area: 718 sq. m** **Grid Size: N/A**

SURVEY UNIT 865004 - MAP 1 OF 1



0 FEET 30
0 METERS 10

N

SURVEY MAP LEGEND
- Smear & TSC Location
- Smear, TSC & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

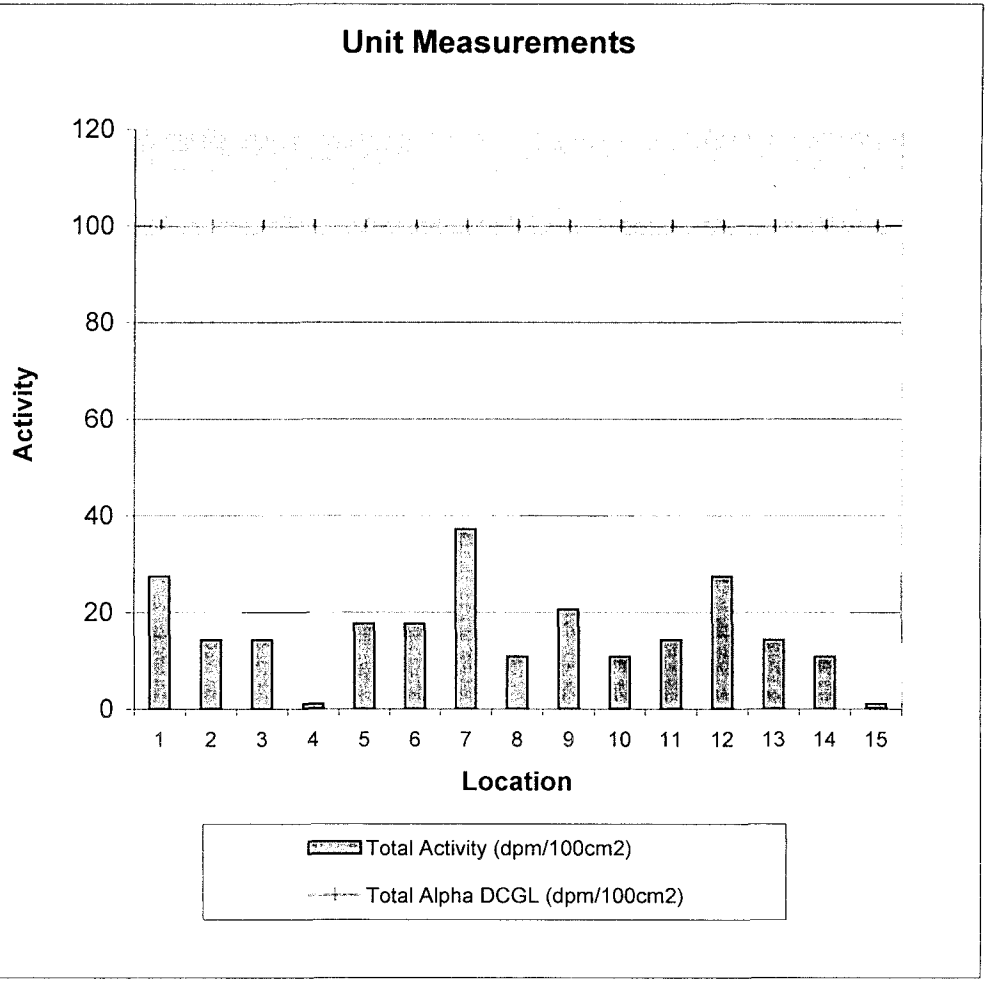
TSA Alpha

865005

6/27/01

				Instument	392	1420
standard deviation:	9.5	max:	37.2	Ave. Instrument background:	3.1 cpm	2.0 cpm
mean:	16.0	min:	1.1	Instrument efficiency:	20.5%	21.95%
median:	14.3			Instrument MDA:	48 dpm	48 dpm

	Surface Location	Total Alpha Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Total Alpha DCGL (dpm/100cm^2)
1	S. section 865 roof	8.7	1.3	27.5	100
2	S. section 865 roof	6.0	2.7	14.3	100
3	S. section 865 roof	6.0	3.3	14.3	100
4	S. section 865 roof	3.3	3.3	1.1	100
5	S. section 865 roof	6.7	2.7	17.7	100
6	S. section 865 roof	6.7	7.3	17.7	100
7	S. section 865 roof	10.7	2.7	37.2	100
8	S. section 865 roof	5.3	6.0	10.9	100
9	S. section 865 roof	7.3	4.7	20.7	100
10	S. section 865 roof	5.3	2.0	10.9	100
11	S. section 865 roof	6.0	0.7	14.3	100
12	S. section 865 roof	8.7	1.3	27.5	100
13	S. section 865 roof	6.0	2.0	14.3	100
14	S. section 865 roof	5.3	2.7	10.9	100
15	S. section 865 roof	3.3	3.3	1.1	100
1 QC	S. section 865 roof	6.0	2.0	18.2	100
3 QC	S. section 865 roof	12.0	2.0	45.6	100



152

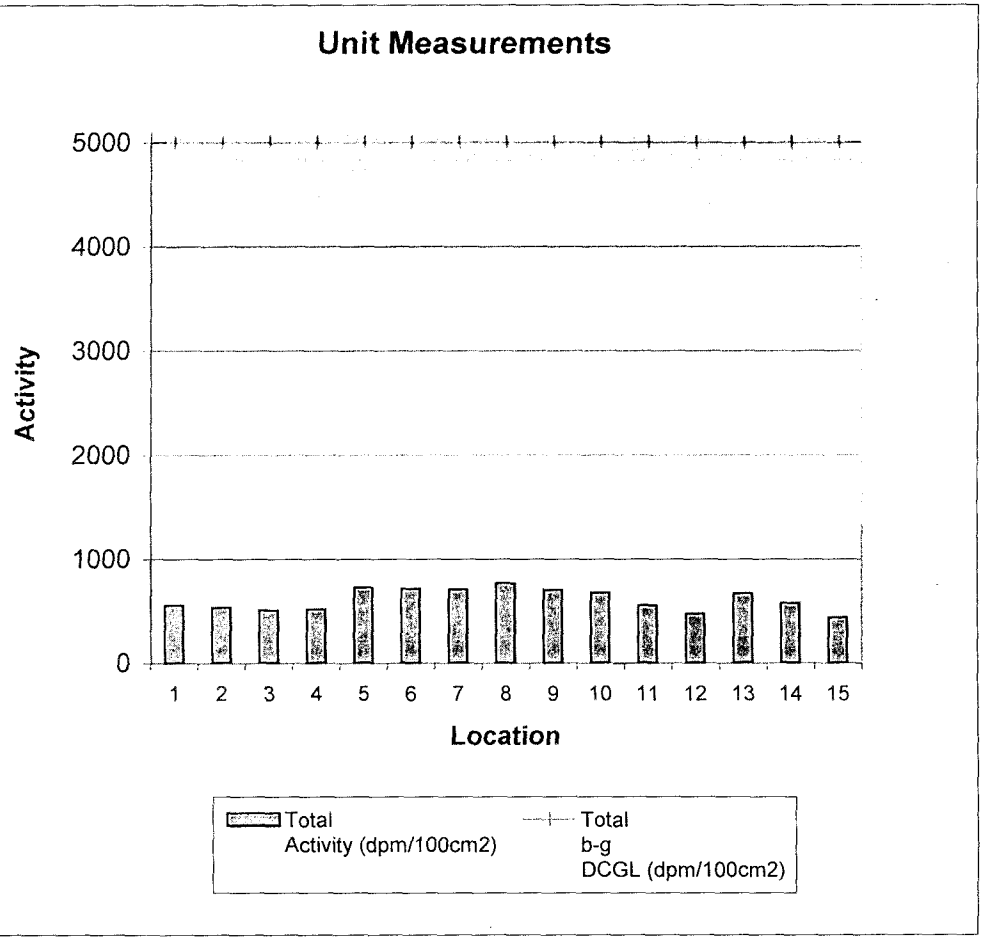
TSA Beta-Gamma

865005

6/27/01

				Instument	392	1420
standard deviation:	104.7	max:	769.3	Ave. Instrument background:	530.1 cpm	513.0 cpm
mean:	611.5	min:	441.3	Instrument efficiency:	30.8%	33.35%
median:	581.0			Instrument MDA:	226 dpm	231 dpm

	Surface Location	Total Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Total β–γ DCGL (dpm/100cm²)
1	S. section 865 roof	703.0	521.0	561.5	5000
2	S. section 865 roof	695.0	564.0	535.5	5000
3	S. section 865 roof	688.0	531.0	512.8	5000
4	S. section 865 roof	691.0	541.0	522.5	5000
5	S. section 865 roof	755.0	510.0	730.3	5000
6	S. section 865 roof	751.0	526.0	717.3	5000
7	S. section 865 roof	749.0	527.0	710.8	5000
8	S. section 865 roof	767.0	537.0	769.3	5000
9	S. section 865 roof	747.0	539.0	704.3	5000
10	S. section 865 roof	739.0	532.0	678.4	5000
11	S. section 865 roof	702.0	523.0	558.2	5000
12	S. section 865 roof	677.0	544.0	477.1	5000
13	S. section 865 roof	737.0	502.0	671.9	5000
14	S. section 865 roof	709.0	560.0	581.0	5000
15	S. section 865 roof	666.0	494.0	441.3	5000
1 QC	S. section 865 roof	765.0	514.0	755.6	5000
3 QC	S. section 865 roof	689.0	512.0	527.7	5000



153

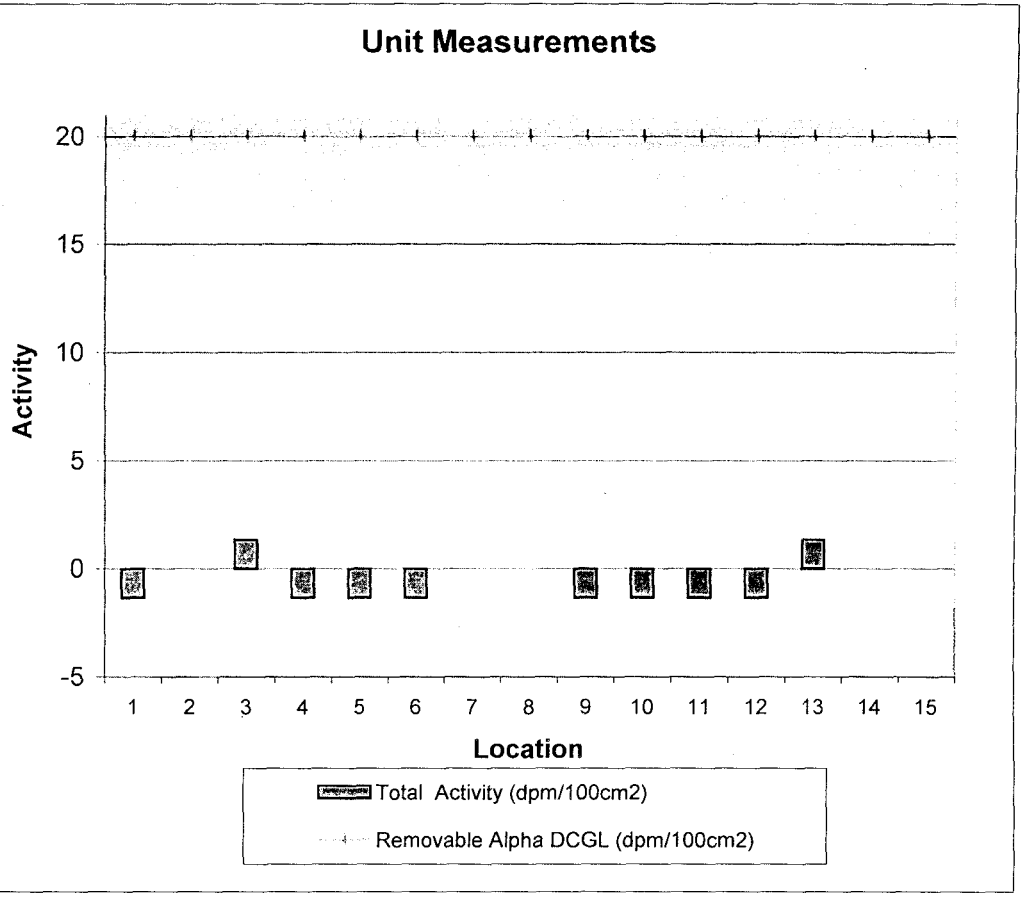
Removable Activity - Alpha

865005

6/27/01

				Instument:	155596
standard deviation:	1.0	max:	1.3	Instrument background:	0.5 cpm
mean:	-0.5	min:	-1.3	Instrument efficiency:	37.2%
median:	-1.3			Instrument MDA:	10 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable Alpha DCGL (dpm/100cm^2)
1	S. section 865 roof	0.0	0.5	-1.3	20
2	S. section 865 roof	0.5	0.5	0.0	20
3	S. section 865 roof	1.0	0.5	1.3	20
4	S. section 865 roof	0.0	0.5	-1.3	20
5	S. section 865 roof	0.0	0.5	-1.3	20
6	S. section 865 roof	0.0	0.5	-1.3	20
7	S. section 865 roof	0.5	0.5	0.0	20
8	S. section 865 roof	0.5	0.5	0.0	20
9	S. section 865 roof	0.0	0.5	-1.3	20
10	S. section 865 roof	0.0	0.5	-1.3	20
11	S. section 865 roof	0.0	0.5	-1.3	20
12	S. section 865 roof	0.0	0.5	-1.3	20
13	S. section 865 roof	1.0	0.5	1.3	20
14	S. section 865 roof	0.5	0.5	0.0	20
15	S. section 865 roof	0.5	0.5	0.0	20



159

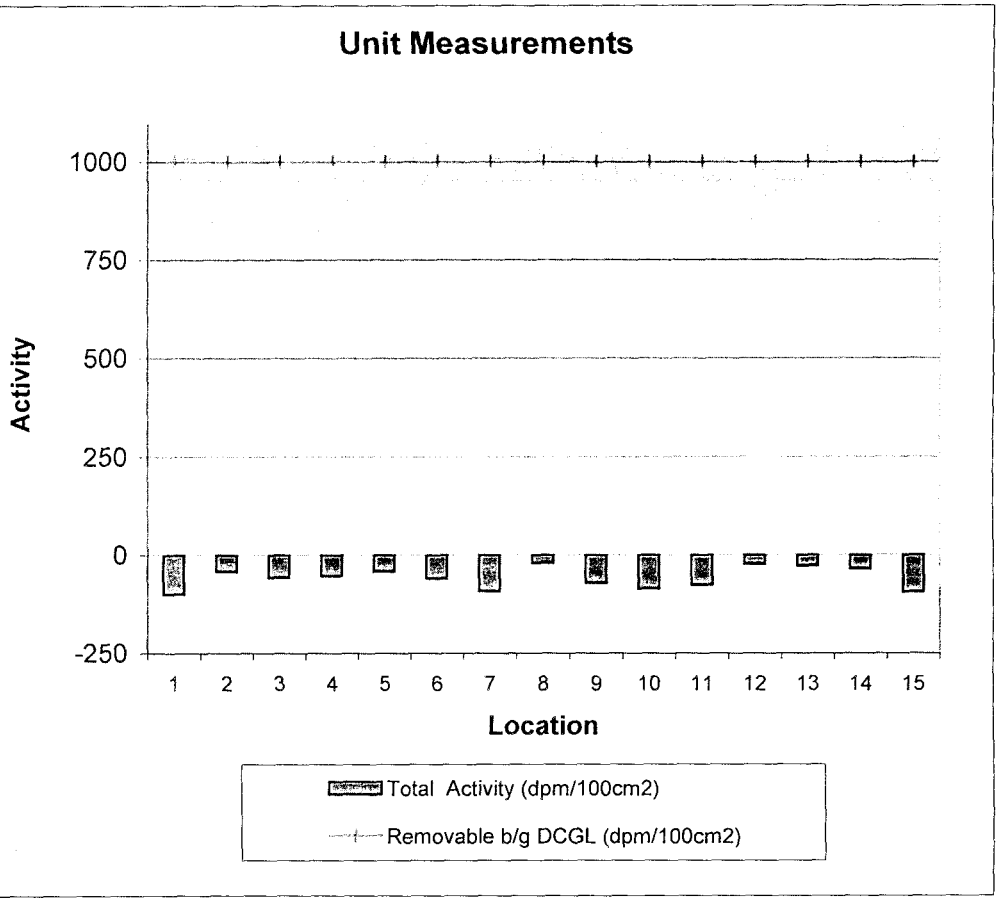
Removable Activity - Beta-Gamma

865005

6/27/01

				Instument:	155596
standard deviation:	26.9	max:	-20.2	Instrument background:	124.0 cpm
mean:	-58.7	min:	-99.7	Instrument efficiency:	39.6%
median:	-56.8			Instrument MDA:	96 dpm

	Surface Location	Total Counts (cpm/100cm²)	Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Removable β/γ DCGL (dpm/100cm²)
1	S. section 865 roof	84.5	124.0	-99.7	1000
2	S. section 865 roof	107.5	124.0	-41.7	1000
3	S. section 865 roof	101.5	124.0	-56.8	1000
4	S. section 865 roof	103.0	124.0	-53.0	1000
5	S. section 865 roof	107.5	124.0	-41.7	1000
6	S. section 865 roof	100.5	124.0	-59.3	1000
7	S. section 865 roof	87.5	124.0	-92.2	1000
8	S. section 865 roof	116.0	124.0	-20.2	1000
9	S. section 865 roof	96.0	124.0	-70.7	1000
10	S. section 865 roof	90.0	124.0	-85.9	1000
11	S. section 865 roof	93.5	124.0	-77.0	1000
12	S. section 865 roof	114.5	124.0	-24.0	1000
13	S. section 865 roof	113.0	124.0	-27.8	1000
14	S. section 865 roof	110.0	124.0	-35.4	1000
15	S. section 865 roof	86.5	124.0	-94.7	1000
16					
17					



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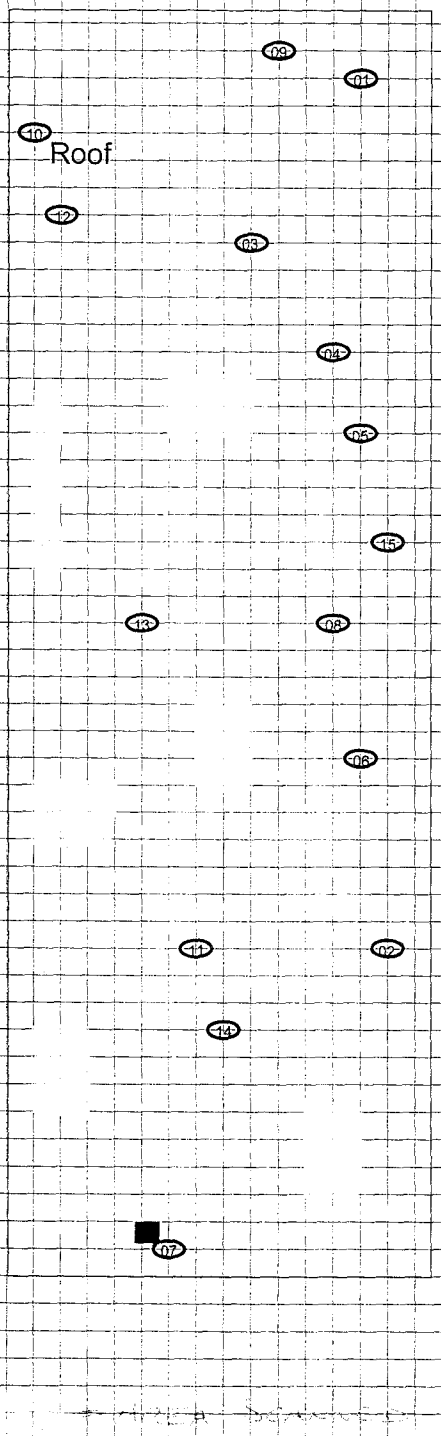
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865005 **Survey Unit: 865005** **Classification: 3**
Building: 865
Survey Unit Description: 865 Process Building Exterior Roof (south end)

Total Floor Area: NA **Total Area: 718 sq. m** **Grid Size: N/A**

SURVEY UNIT 865005 - MAP 1 OF 1



0 FEET 30
0 METERS 10

N

SURVEY MAP LEGEND
- # Smear & TSC Location
- # Smear, TSC & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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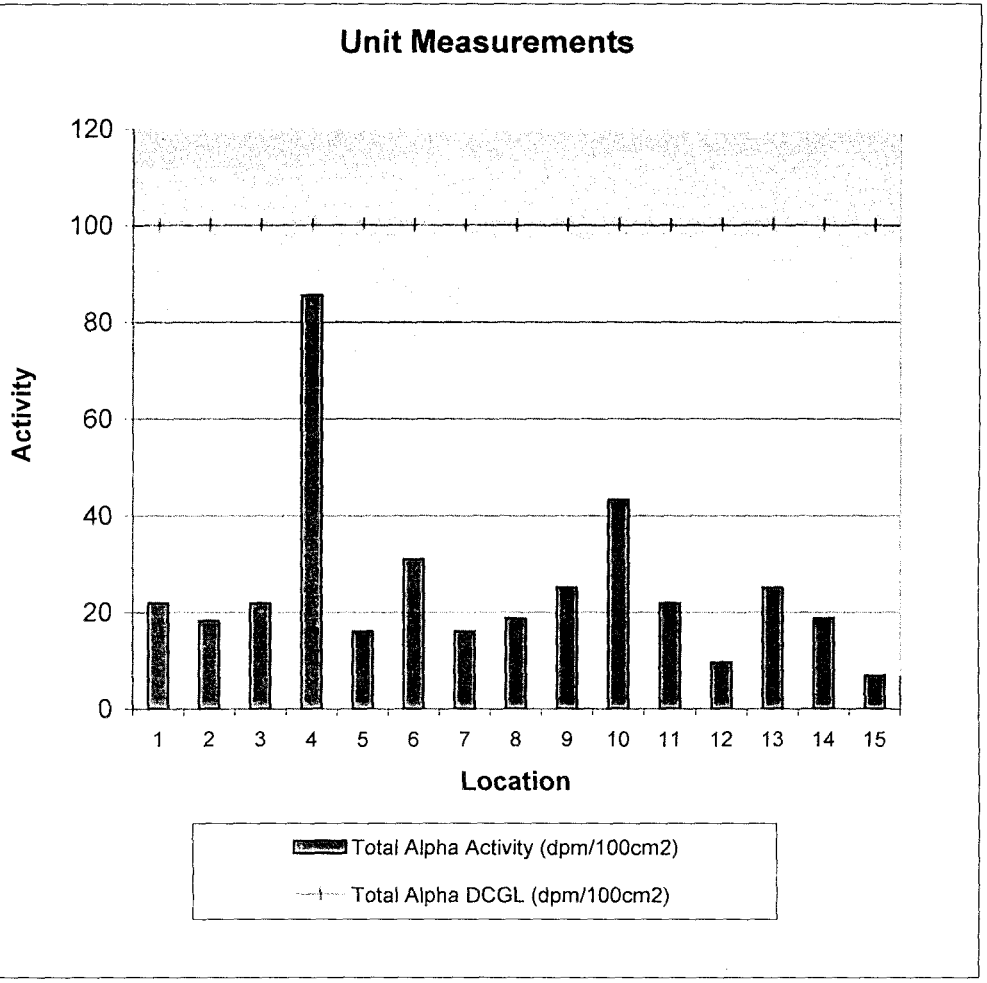
TSA Alpha

865006

8/7/01

				Instrument	3114 (7/25/01)	394	3114 (8/7/01)
standard deviation:	18.7	max:	85.6	Ave. Instrument background:	3.2 cpm	1.7 cpm	3.2 cpm
mean:	25.4	min:	6.9	Instrument efficiency:	22.0%	21.8%	22.0%
median:	21.9			Instrument MDA:	48 dpm	48 dpm	48 dpm

	Surface Location	Total Alpha Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Alpha Activity (dpm/100cm²)	Total Alpha DCGL (dpm/100cm²)
1	827, 866, 867, 868, & tanks	8.0	5.3	21.9	100
2	827, 866, 867, 868, & tanks	7.2	3.3	18.3	100
3	827, 866, 867, 868, & tanks	8.0	5.3	21.9	100
4	827, 866, 867, 868, & tanks	22.0	2.0	85.6	100
5	827, 866, 867, 868, & tanks	6.7	2.7	16.0	100
6	827, 866, 867, 868, & tanks	10.0	5.3	31.0	100
7	827, 866, 867, 868, & tanks	6.7	2.0	16.0	100
8	827, 866, 867, 868, & tanks	7.3	2.7	18.8	100
9	827, 866, 867, 868, & tanks	8.7	1.0	25.1	100
10	827, 866, 867, 868, & tanks	12.7	5.3	43.3	100
11	827, 866, 867, 868, & tanks	8.0	2.0	21.9	100
12	827, 866, 867, 868, & tanks	5.3	3.3	9.7	100
13	827, 866, 867, 868, & tanks	8.7	0.7	25.1	100
14	827, 866, 867, 868, & tanks	7.3	4.0	18.8	100
15	827, 866, 867, 868, & tanks	4.7	2.7	6.9	100
10 QC	827, 866, 867, 868, & tanks	14.7	0.7	59.6	100
5 QC	827, 866, 867, 868, & tanks	2.0	2.7	1.4	100



157

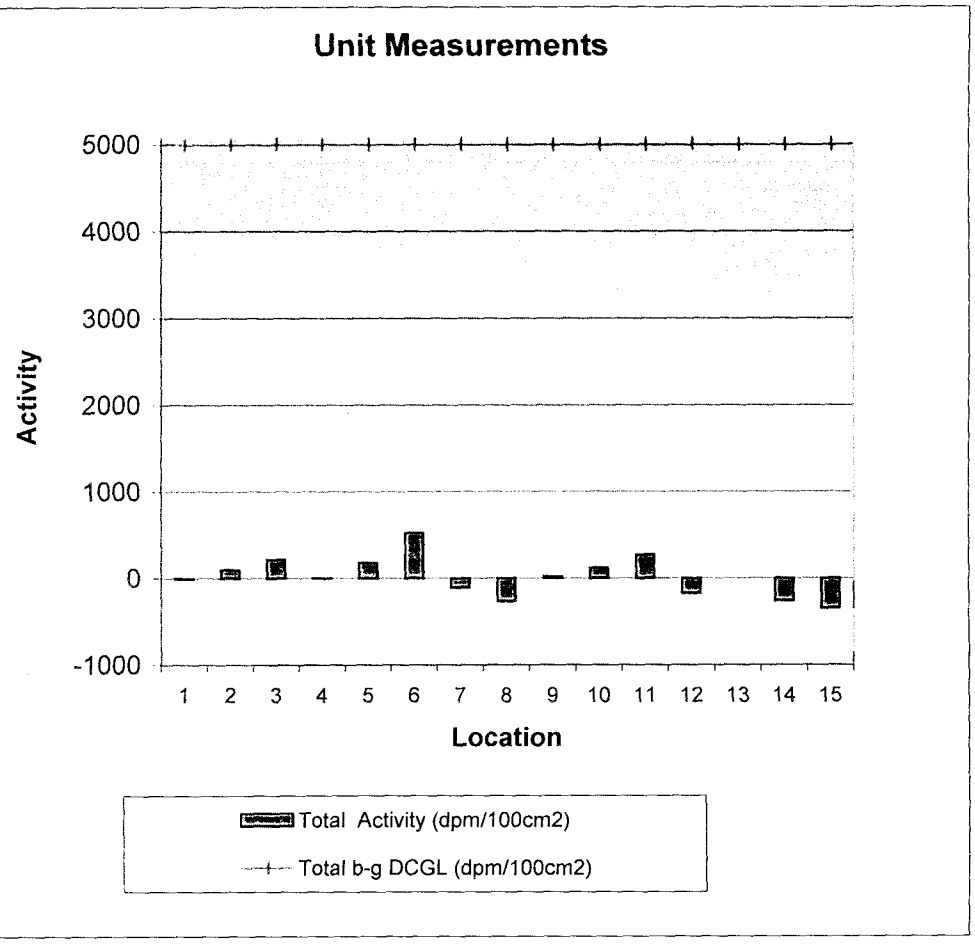
TSA Beta-Gamma

865006

8/7/01

				Instument	3114 (7/25/01)	394	3114 (8/7/01)
standard deviation:	231.9	max:	527.9	Ave. Instrument background:	454.9 cpm	452.5 cpm	454.9 cpm
mean:	19.6	min:	-345.3	Instrument efficiency:	22.0%	21.8%	32.4%
median:	3.5			Instrument MDA:	250 dpm	272 dpm	244 dpm

	Surface Location	Total Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Total β-γ DCGL (dpm/100cm²)
1	827, 866, 867, 868, & tanks	453.0	421.0	-5.8	5000
2	827, 866, 867, 868, & tanks	477.0	447.0	100.6	5000
3	827, 866, 867, 868, & tanks	503.0	604.0	218.8	5000
4	827, 866, 867, 868, & tanks	456.0	464.0	3.5	5000
5	827, 866, 867, 868, & tanks	495.0	511.0	182.4	5000
6	827, 866, 867, 868, & tanks	571.0	525.0	527.9	5000
7	827, 866, 867, 868, & tanks	420.0	545.0	-107.6	5000
8	827, 866, 867, 868, & tanks	369.0	381.0	-265.0	5000
9	827, 866, 867, 868, & tanks	462.0	456.0	22.0	5000
10	827, 866, 867, 868, & tanks	482.0	495.0	123.3	5000
11	827, 866, 867, 868, & tanks	543.0	419.0	272.0	5000
12	827, 866, 867, 868, & tanks	417.0	376.0	-172.1	5000
13	827, 866, 867, 868, & tanks	455.0	477.0	0.4	5000
14	827, 866, 867, 868, & tanks	370.0	365.0	-261.9	5000
15	827, 866, 867, 868, & tanks	343.0	337.0	-345.3	5000
10 QC	827, 866, 867, 868, & tanks	396.0	404.0	-259.2	5000
5 QC	827, 866, 867, 868, & tanks	435.0	501.0	-80.3	5000



158

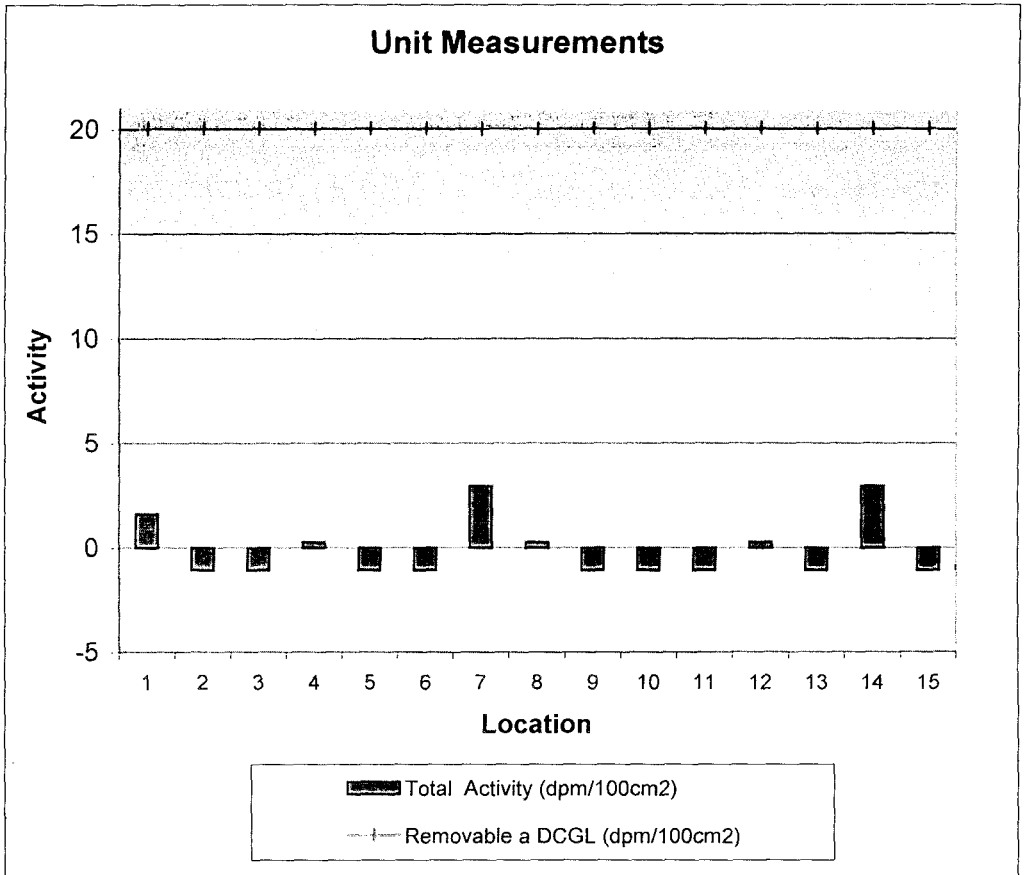
Removable Activity - Alpha

865006

7/25/01

				Instument:	155596
standard deviation:	1.5	max:	3.0	Instrument background:	0.4 cpm
mean:	-0.1	min:	-1.1	Instrument efficiency:	37.2%
median:	-1.1			Instrument MDA:	9 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	827, 866, 867, 868, & tanks	1.0	0.4	1.6	20
2	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
3	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
4	827, 866, 867, 868, & tanks	0.5	0.4	0.3	20
5	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
6	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
7	827, 866, 867, 868, & tanks	1.5	0.4	3.0	20
8	827, 866, 867, 868, & tanks	0.5	0.4	0.3	20
9	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
10	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
11	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
12	827, 866, 867, 868, & tanks	0.5	0.4	0.3	20
13	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
14	827, 866, 867, 868, & tanks	1.5	0.4	3.0	20
15	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20



159

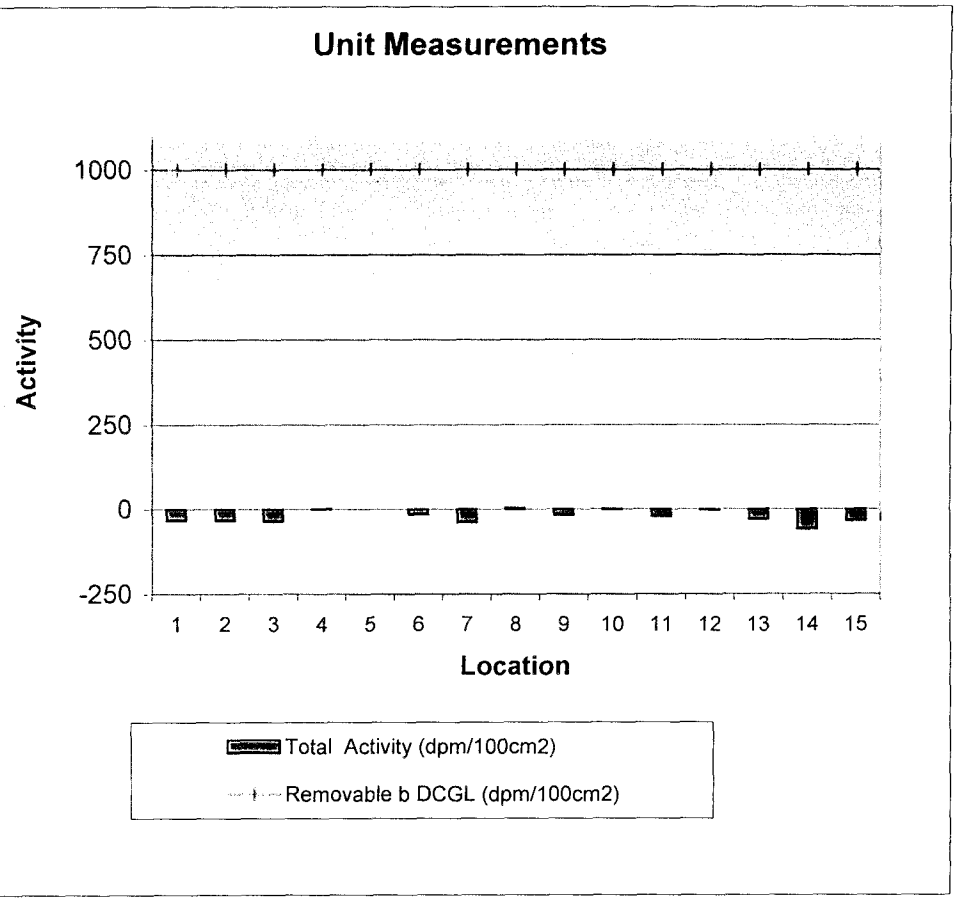
Removable Activity - Beta-Gamma

865006

7/25/01

standard deviation:	18.6	max:	3.8	Instument:	155596
mean:	-20.5	min:	-58.1	Instrument background:	100.0 cpm
median:	-20.2			Instrument efficiency:	39.6%
				Instrument MDA:	69 dpm

	Surface Location	Total Counts (cpm/100cm²)	Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Removable β DCGL (dpm/100cm²)
1	827, 866, 867, 868, & tanks	87.0	100.0	-32.8	1000
2	827, 866, 867, 868, & tanks	87.0	100.0	-32.8	1000
3	827, 866, 867, 868, & tanks	86.0	100.0	-35.4	1000
4	827, 866, 867, 868, & tanks	100.5	100.0	1.3	1000
5	827, 866, 867, 868, & tanks	100.0	100.0	0.0	1000
6	827, 866, 867, 868, & tanks	94.0	100.0	-15.2	1000
7	827, 866, 867, 868, & tanks	85.0	100.0	-37.9	1000
8	827, 866, 867, 868, & tanks	101.5	100.0	3.8	1000
9	827, 866, 867, 868, & tanks	93.5	100.0	-16.4	1000
10	827, 866, 867, 868, & tanks	100.5	100.0	1.3	1000
11	827, 866, 867, 868, & tanks	92.0	100.0	-20.2	1000
12	827, 866, 867, 868, & tanks	99.5	100.0	-1.3	1000
13	827, 866, 867, 868, & tanks	88.5	100.0	-29.0	1000
14	827, 866, 867, 868, & tanks	77.0	100.0	-58.1	1000
15	827, 866, 867, 868, & tanks	86.5	100.0	-34.1	1000



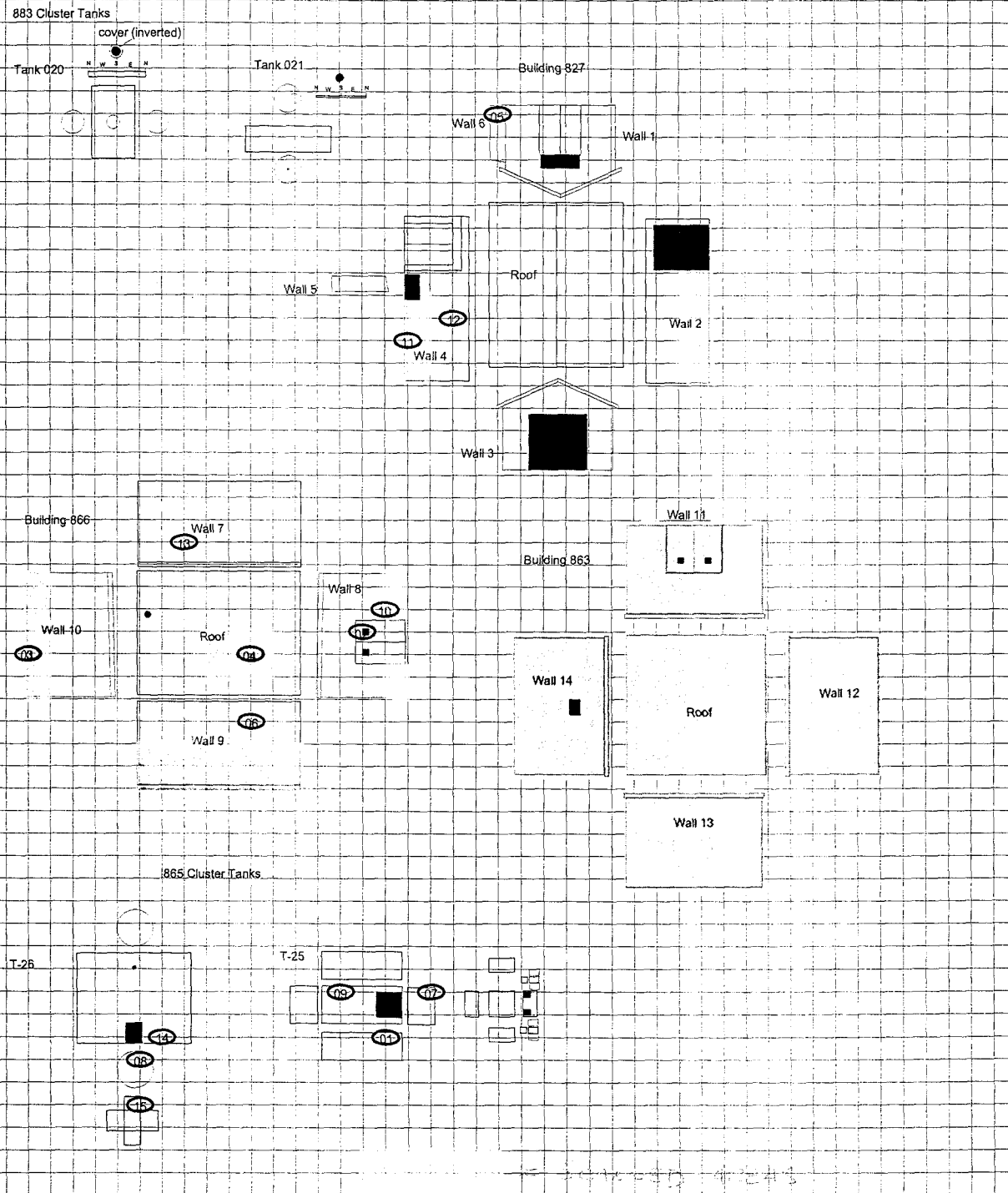
ACC

RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865006 **Survey Unit: 865006** **Classification: 3**
Building: 865
Survey Unit Description: 827, 863, 866, 865/883 Tanks Exterior

Total Floor Area: NA **Total Area: 454 sq. m** **Grid Size: N/A**

SURVEY UNIT 865006 - MAP 1 OF 1



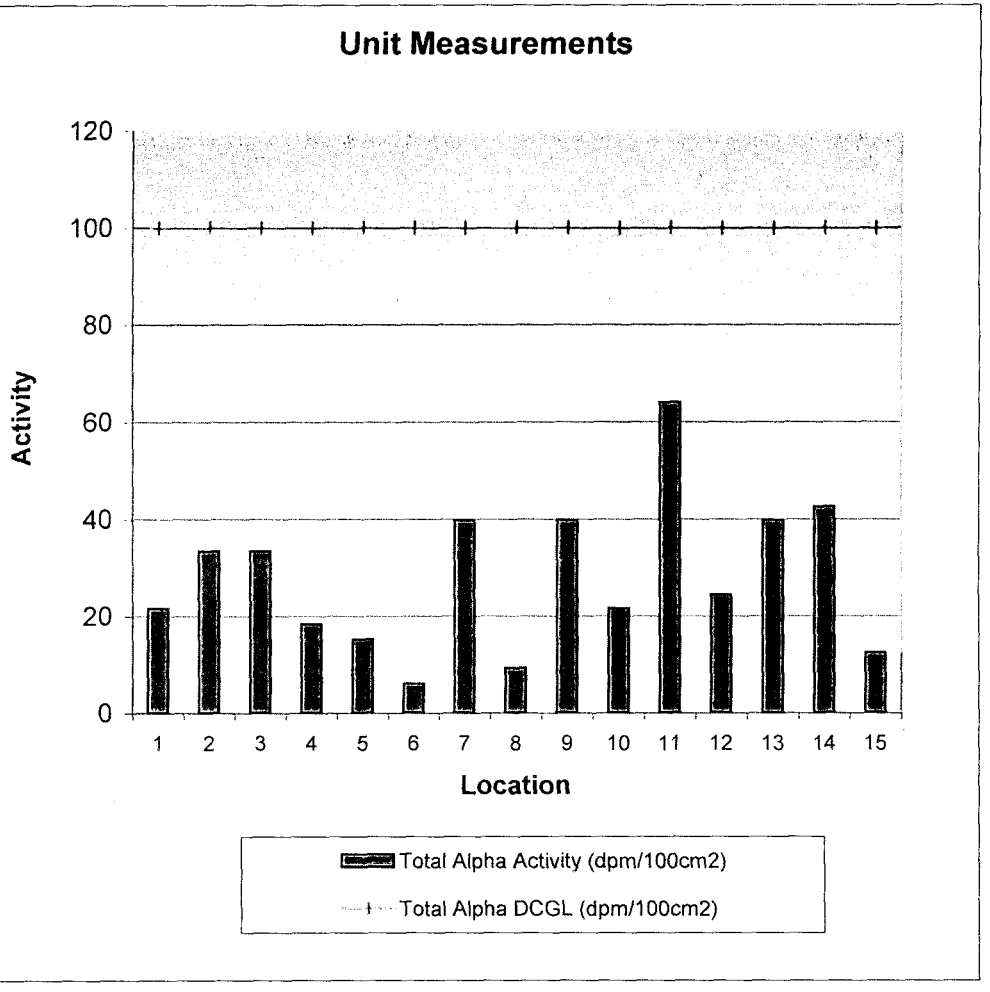
TSA Alpha

865007

1/0/00

				Instrument	1420	394
standard deviation:	15.6	max:	64.1	Ave. Instrument background:	2.0 cpm	1.7 cpm
mean:	28.2	min:	6.1	Instrument efficiency:	21.9%	21.8%
median:	24.4			Instrument MDA:	48 dpm	48 dpm

	Surface Location	Total Alpha Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Alpha Activity (dpm/100cm^2)	Total Alpha DCGL (dpm/100cm^2)
1	867, 868 (plenums)	6.7	0.0	21.6	100
2	867, 868 (plenums)	9.3	2.0	33.5	100
3	867, 868 (plenums)	9.3	1.3	33.5	100
4	867, 868 (plenums)	6.0	4.0	18.5	100
5	867, 868 (plenums)	5.3	0.0	15.3	100
6	867, 868 (plenums)	3.3	1.3	6.1	100
7	867, 868 (plenums)	10.7	1.3	39.9	100
8	867, 868 (plenums)	4.0	0.0	9.3	100
9	867, 868 (plenums)	10.7	2.0	39.9	100
10	867, 868 (plenums)	6.7	4.0	21.6	100
11	867, 868 (plenums)	16.0	3.3	64.1	100
12	867, 868 (plenums)	7.3	2.0	24.4	100
13	867, 868 (plenums)	10.7	2.7	39.9	100
14	867, 868 (plenums)	11.3	0.7	42.6	100
15	867, 868 (plenums)	4.7	4.7	12.5	100
5 QC	867, 868 (plenums)	6.0	2.0	20.0	100
6 QC	867, 868 (plenums)	12.0	1.3	47.5	100



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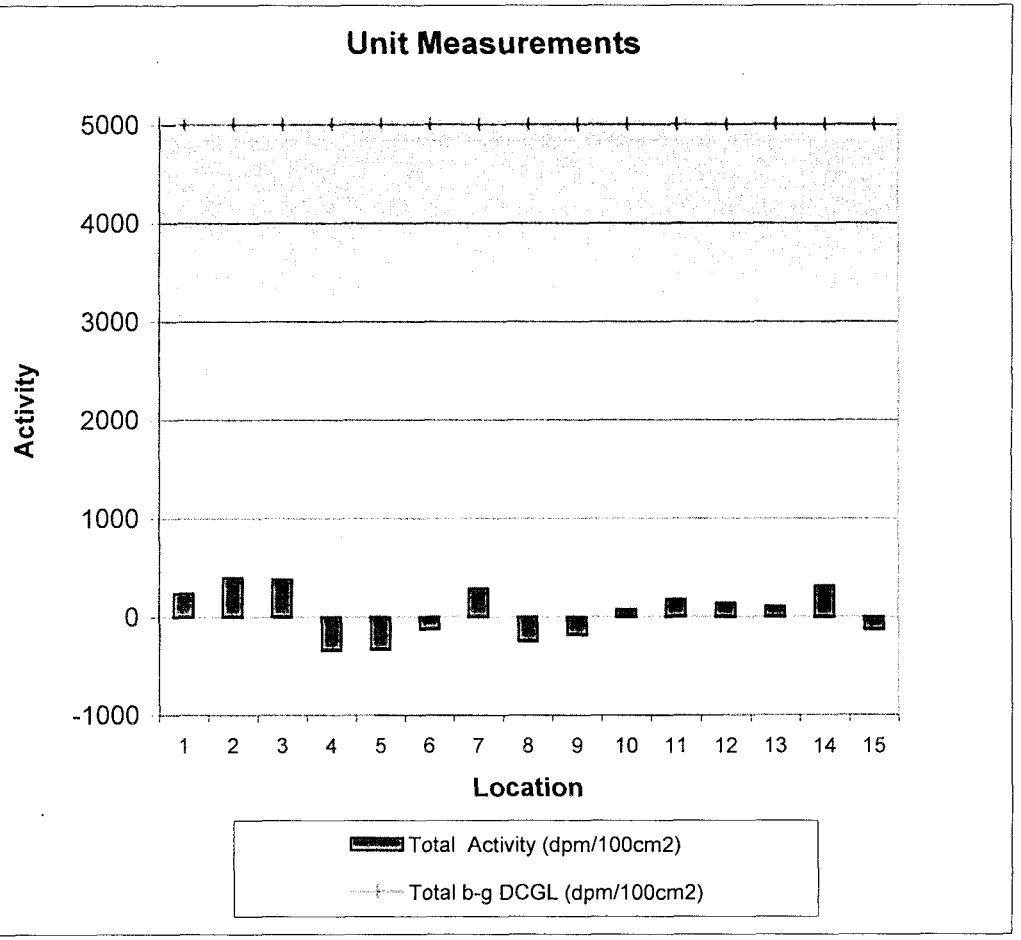
TSA Beta-Gamma

865007

1/0/00

				Instument	1420	394
standard deviation:	258.0	max:	397.3	Ave. Instrument background:	415.9 cpm	380.5 cpm
mean:	50.8	min:	-341.4	Instrument efficiency:	21.9%	21.8%
median:	105.5			Instrument MDA:	229 dpm	250 dpm

	Surface Location	Total Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Total β–γ DCGL (dpm/100cm²)
1	867, 868 (plenums)	469	368	242.3	5000
2	867, 868 (plenums)	503	447	397.3	5000
3	867, 868 (plenums)	500	461	383.6	5000
4	867, 868 (plenums)	341	315	-341.4	5000
5	867, 868 (plenums)	343	428	-332.3	5000
6	867, 868 (plenums)	389	468	-122.5	5000
7	867, 868 (plenums)	479	427	287.9	5000
8	867, 868 (plenums)	361	391	-250.2	5000
9	867, 868 (plenums)	375	427	-186.4	5000
10	867, 868 (plenums)	433	377	78.1	5000
11	867, 868 (plenums)	455	429	178.4	5000
12	867, 868 (plenums)	446	365	137.4	5000
13	867, 868 (plenums)	439	379	105.5	5000
14	867, 868 (plenums)	485	435	315.2	5000
15	867, 868 (plenums)	387	521	-131.6	5000
5 QC	867, 868 (plenums)	314	351	-305.0	5000
6 QC	867, 868 (plenums)	369	410	-52.8	5000



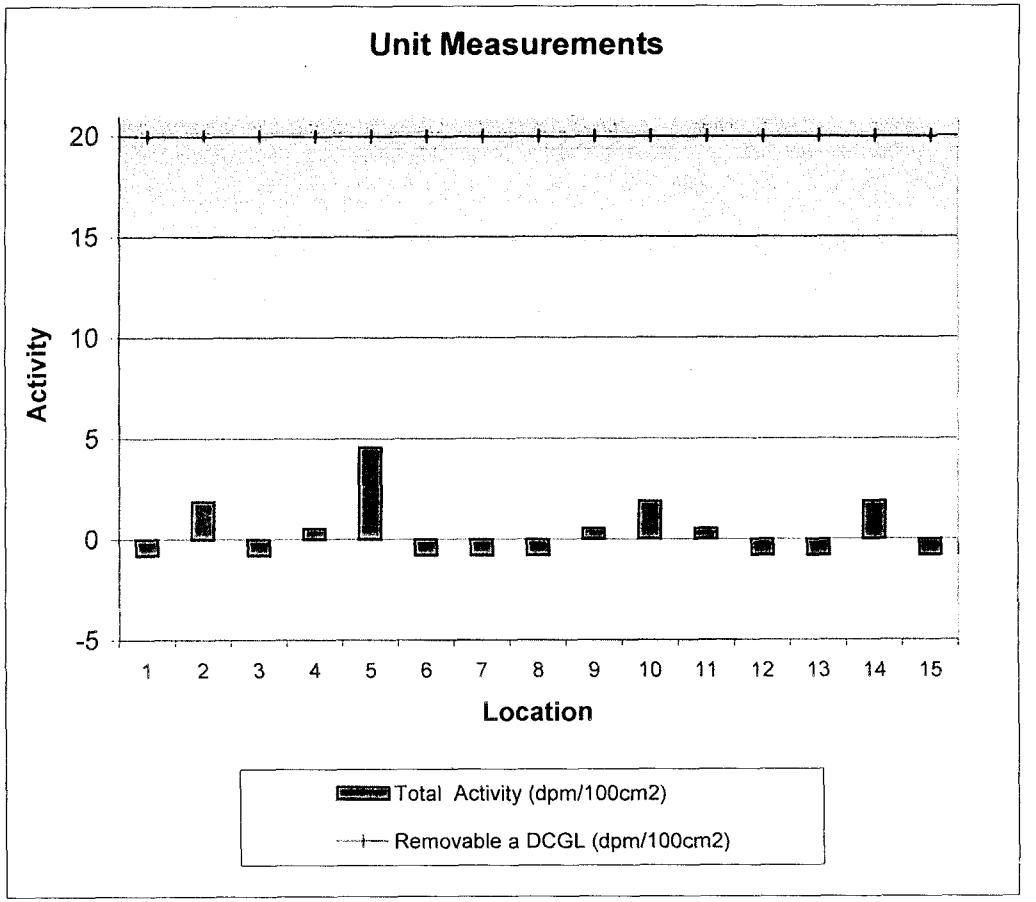
Removable Activity - Alpha

865007

7/24/01

				Instument:	155596
standard deviation:	1.6	max:	4.6	Instrument background:	0.3 cpm
mean:	0.4	min:	-0.8	Instrument efficiency:	37.2%
median:	-0.8			Instrument MDA:	8 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	867, 868 (plenums)	0.0	0.3	-0.8	20
2	867, 868 (plenums)	1.0	0.3	1.9	20
3	867, 868 (plenums)	0.0	0.3	-0.8	20
4	867, 868 (plenums)	0.5	0.3	0.5	20
5	867, 868 (plenums)	2.0	0.3	4.6	20
6	867, 868 (plenums)	0.0	0.3	-0.8	20
7	867, 868 (plenums)	0.0	0.3	-0.8	20
8	867, 868 (plenums)	0.0	0.3	-0.8	20
9	867, 868 (plenums)	0.5	0.3	0.5	20
10	867, 868 (plenums)	1.0	0.3	1.9	20
11	867, 868 (plenums)	0.5	0.3	0.5	20
12	867, 868 (plenums)	0.0	0.3	-0.8	20
13	867, 868 (plenums)	0.0	0.3	-0.8	20
14	867, 868 (plenums)	1.0	0.3	1.9	20
15	867, 868 (plenums)	0.0	0.3	-0.8	20



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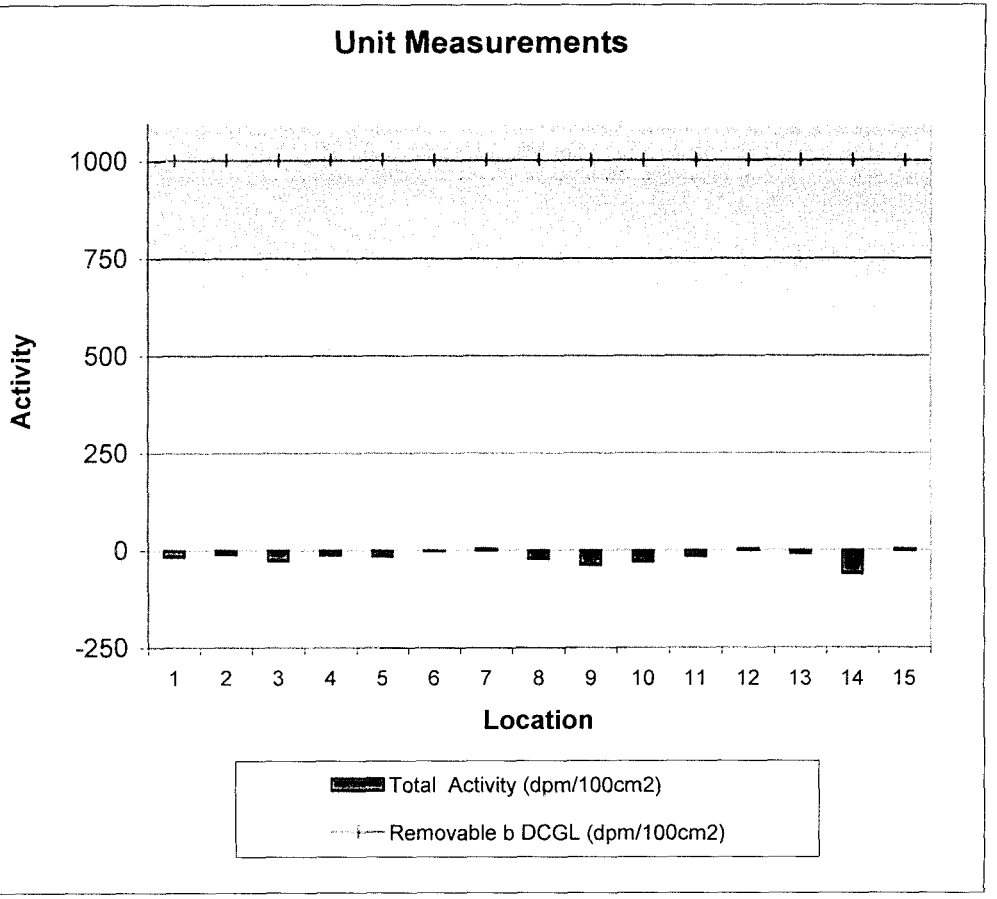
Removable Activity - Beta-Gamma

865007

7/24/01

				Instument:	155596
standard deviation:	17.3	max:	5.1	Instrument background:	100.0 cpm
mean:	-15.8	min:	-59.3	Instrument efficiency:	39.6%
median:	-15.2			Instrument MDA:	68 dpm

	Surface Location	Total Counts (cpm/100cm²)	Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Removable β DCGL (dpm/100cm²)
1	867, 868 (plenums)	93.5	100.0	-16.4	1000
2	867, 868 (plenums)	96.0	100.0	-10.1	1000
3	867, 868 (plenums)	89.5	100.0	-26.5	1000
4	867, 868 (plenums)	95.5	100.0	-11.4	1000
5	867, 868 (plenums)	94.0	100.0	-15.2	1000
6	867, 868 (plenums)	99.5	100.0	-1.3	1000
7	867, 868 (plenums)	102.0	100.0	5.1	1000
8	867, 868 (plenums)	91.5	100.0	-21.5	1000
9	867, 868 (plenums)	85.5	100.0	-36.6	1000
10	867, 868 (plenums)	88.5	100.0	-29.0	1000
11	867, 868 (plenums)	94.0	100.0	-15.2	1000
12	867, 868 (plenums)	101.5	100.0	3.8	1000
13	867, 868 (plenums)	97.0	100.0	-7.6	1000
14	867, 868 (plenums)	76.5	100.0	-59.3	1000
15	867, 868 (plenums)	101.5	100.0	3.8	1000



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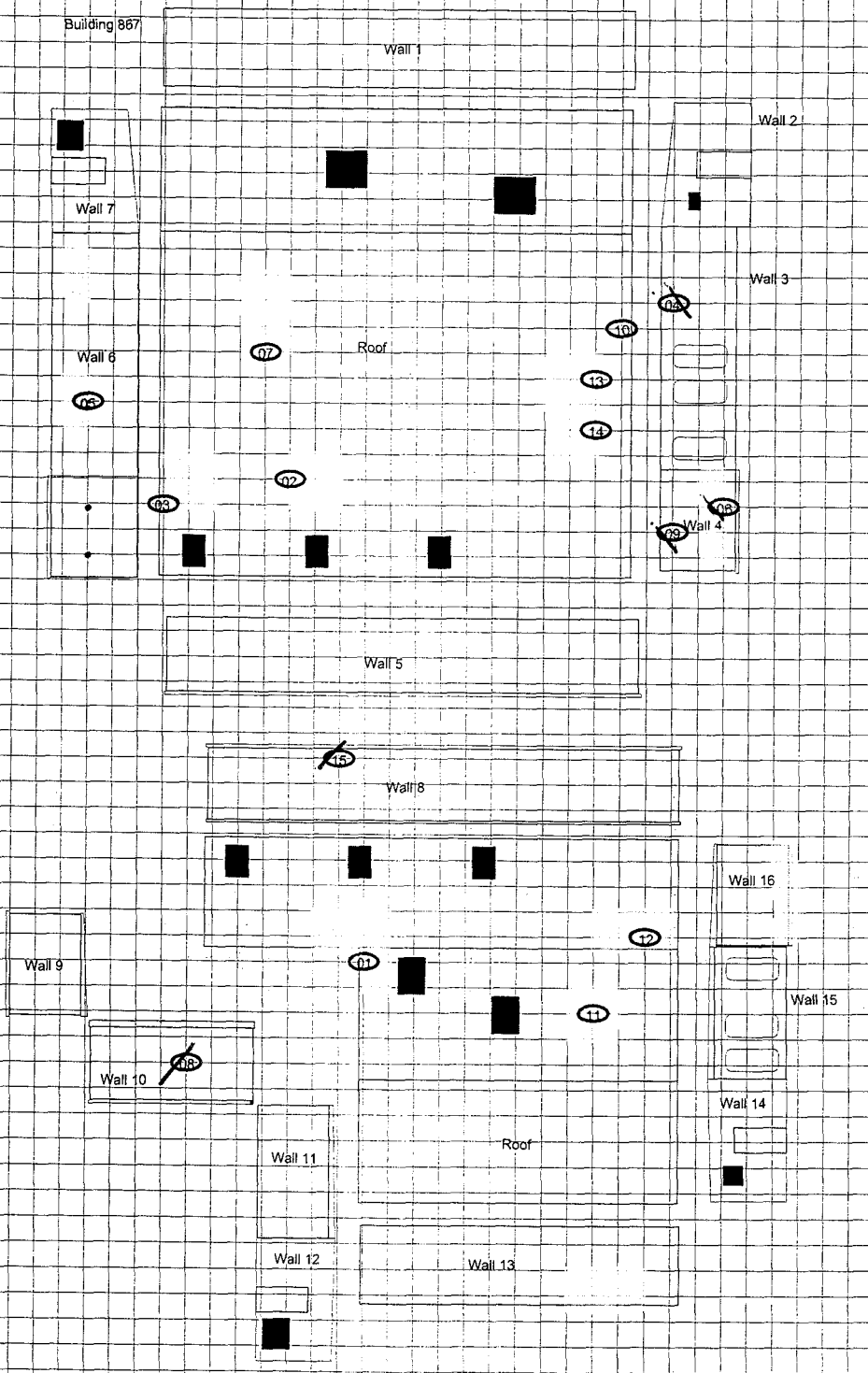
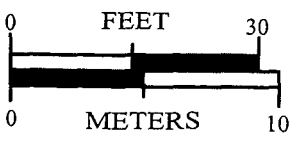
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865007 **Survey Unit: 865007** **Classification: 3**
Building: 865
Survey Unit Description: 867, 868 Exterior

Total Floor Area: NA **Total Area: 952 sq. m** **Grid Size: N/A**

SURVEY UNIT 865007 - MAP 1 OF 1





N

SURVEY MAP LEGEND

- # Smear & TSC Location
- # Smear, TSC & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

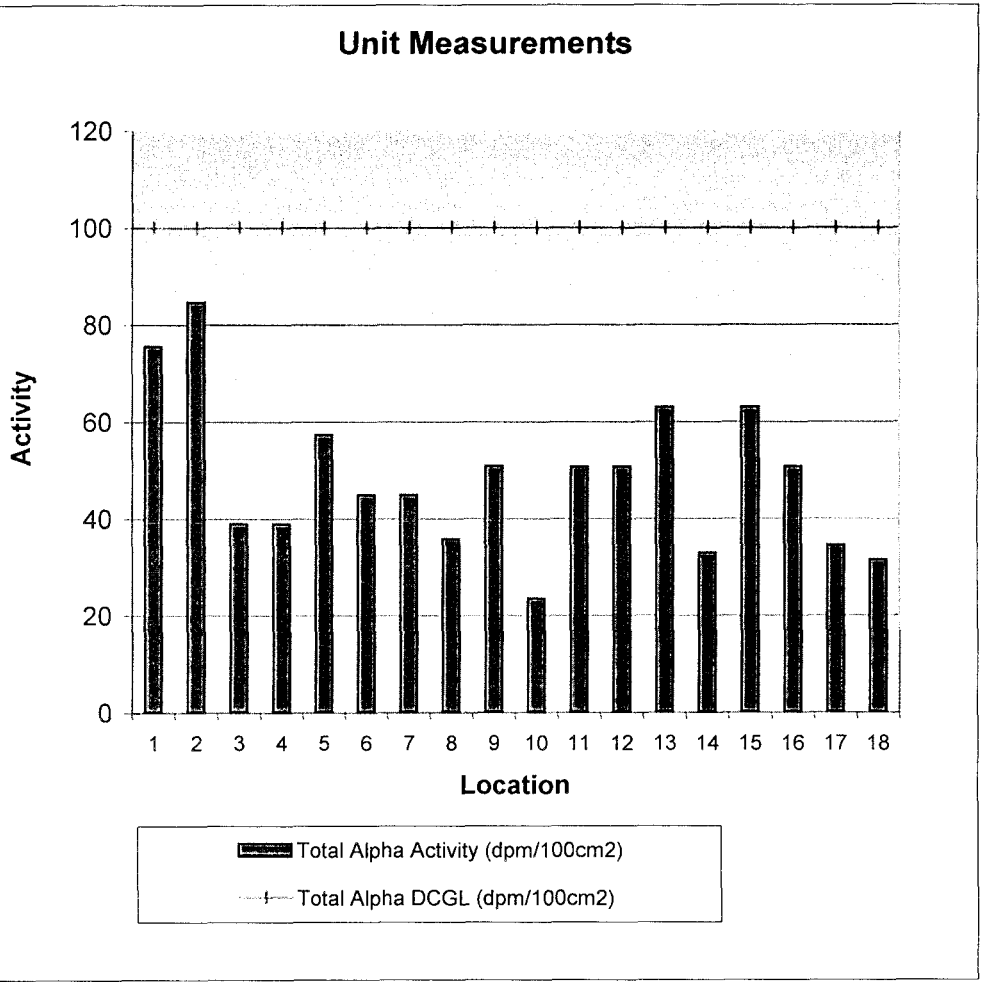
TSA Alpha

865008

7/19/01

				Instrument:	1420	1513	3114	1366	1682 QC
standard deviation:	16.3	max:	84.7	Ave. Instrument background:	2.1	2.1	2.1	2.1	3.7 cpm
mean:	50.4	min:	23.6	Instrument efficiency:	21.9%	21.1%	22.0%	20.8%	22.0%
median:	50.8			Instrument MDA:	48	48	48	48	48 dpm

	Surface Location	Total Alpha Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Alpha Activity (dpm/100cm^2)	Total Alpha DCGL (dpm/100cm^2)
1	865 N&S facing walls	18.7	0.7	75.5	100
2	865 N&S facing walls	20.7	2.0	84.7	100
3	865 N&S facing walls	10.7	2.7	39.1	100
4	865 N&S facing walls	10.7	2.7	39.1	100
5	865 N&S facing walls	14.7	3.3	57.3	100
6	865 N&S facing walls	12.0	1.3	45.0	100
7	865 N&S facing walls	12.0	1.3	45.0	100
8	865 N&S facing walls	10.0	1.3	35.9	100
9	865 N&S facing walls	13.3	1.3	50.9	100
10	865 N&S facing walls	7.3	1.3	23.6	100
11	865 N&S facing walls	13.3	4.0	50.8	100
12	865 N&S facing walls	13.3	2.7	50.8	100
13	865 N&S facing walls	16.0	2.7	63.0	100
14	865 N&S facing walls	9.0	1.3	33.0	100
15	865 N&S facing walls	16.0	2.7	63.0	100
16	865 N&S facing walls	12.7	2.7	50.8	100
17	865 N&S facing walls	11.3	2.7	34.5	100
18	865 N&S facing walls	8.7	1.7	31.6	100
4 QC	865 N&S facing walls	13.3	2.7	53.0	100
5 QC	865 N&S facing walls	10.7	4.7	40.7	100



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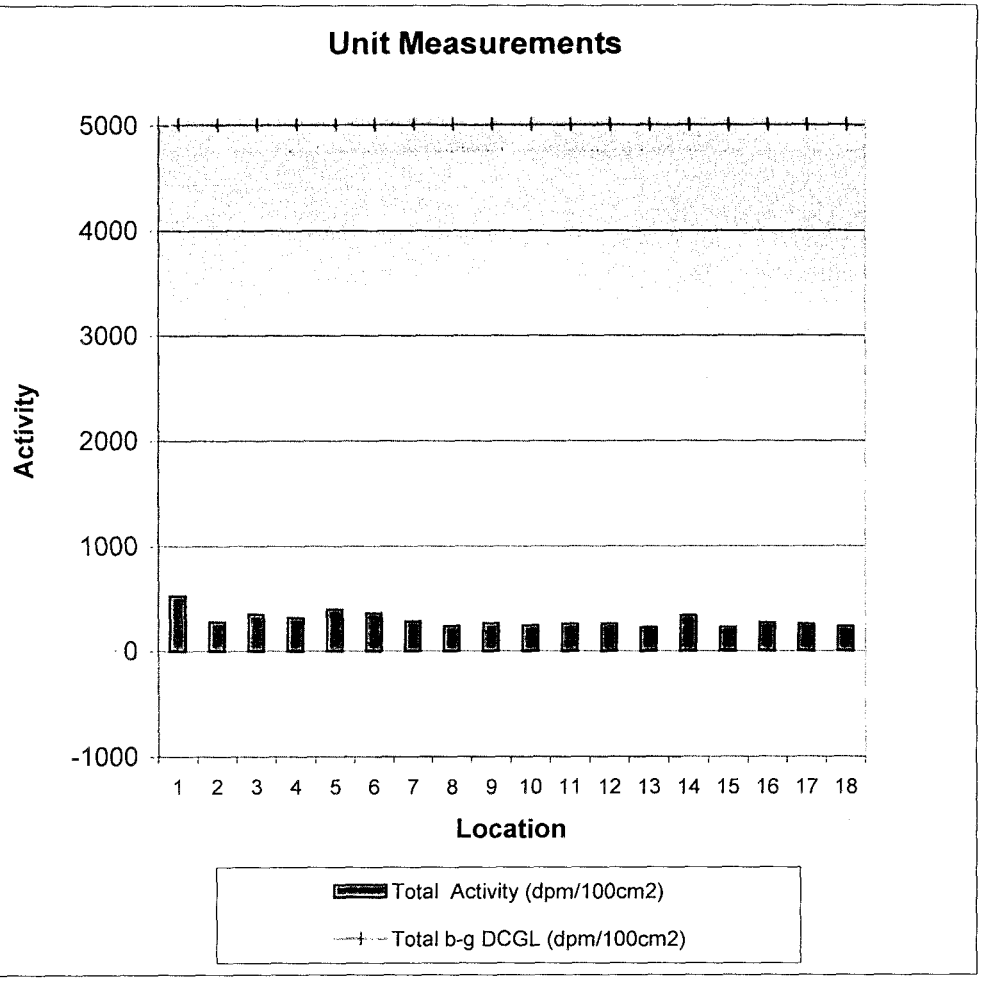
TSA Beta-Gamma

865008

7/19/01

				Instrument:	1420	1513	3114	1366	1682 QC
standard deviation:	80.8	max:	529.9	Ave. Instrument background:	565.3	565.3	565.3	565.3	549.0 cpm
mean:	307.2	min:	227.5	Instrument efficiency:	33.4%	32.0%	32.4%	32.3%	30.2%
median:	281.0			Instrument MDA:	239	223	242	350	366 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Total β–γ DCGL (dpm/100cm^2)
1	865 N&S facing walls	742	486	529.9	5000
2	865 N&S facing walls	659	547	281.0	5000
3	865 N&S facing walls	683	597	353.0	5000
4	865 N&S facing walls	672	581	320.0	5000
5	865 N&S facing walls	698	637	398.0	5000
6	865 N&S facing walls	686	536	362.0	5000
7	865 N&S facing walls	661	693	287.0	5000
8	865 N&S facing walls	646	531	242.0	5000
9	865 N&S facing walls	655	603	269.0	5000
10	865 N&S facing walls	648	556	248.0	5000
11	865 N&S facing walls	650	499	261.5	5000
12	865 N&S facing walls	650	567	261.5	5000
13	865 N&S facing walls	639	560	227.5	5000
14	865 N&S facing walls	675	547	339.7	5000
15	865 N&S facing walls	639	560	227.5	5000
16	865 N&S facing walls	653	523	271.6	5000
17	865 N&S facing walls	627	551	258.3	5000
18	865 N&S facing walls	641	601	234.4	5000
4 QC	865 N&S facing walls	575	558	30.3	5000
5 QC	865 N&S facing walls	617	540	161.4	5000



16.8

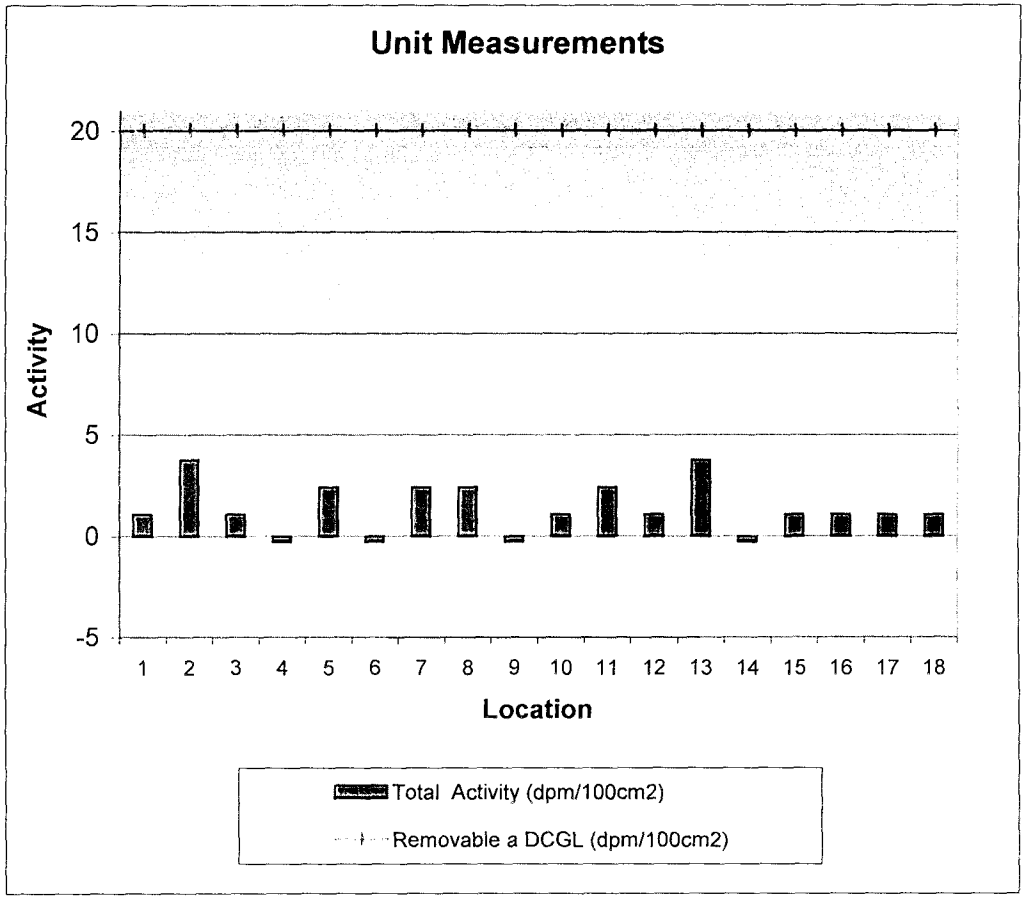
Removable Activity - Alpha

865008

7/17/01

				Instrument:	155596
standard deviation:	1.4	max:	3.8	Instrument background:	0.1 cpm
mean:	1.4	min:	-0.3	Instrument efficiency:	37.2%
median:	1.1			Instrument MDA:	6 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	865 N&S facing walls	0.5	0.1	1.1	20
2	865 N&S facing walls	1.5	0.1	3.8	20
3	865 N&S facing walls	0.5	0.1	1.1	20
4	865 N&S facing walls	0.0	0.1	-0.3	20
5	865 N&S facing walls	1.0	0.1	2.4	20
6	865 N&S facing walls	0.0	0.1	-0.3	20
7	865 N&S facing walls	1.0	0.1	2.4	20
8	865 N&S facing walls	1.0	0.1	2.4	20
9	865 N&S facing walls	0.0	0.1	-0.3	20
10	865 N&S facing walls	0.5	0.1	1.1	20
11	865 N&S facing walls	1.0	0.1	2.4	20
12	865 N&S facing walls	0.5	0.1	1.1	20
13	865 N&S facing walls	1.5	0.1	3.8	20
14	865 N&S facing walls	0.0	0.1	-0.3	20
15	865 N&S facing walls	0.5	0.1	1.1	20
16	865 N&S facing walls	0.5	0.1	1.1	20
17	865 N&S facing walls	0.5	0.1	1.1	20
18	865 N&S facing walls	0.5	0.1	1.1	20



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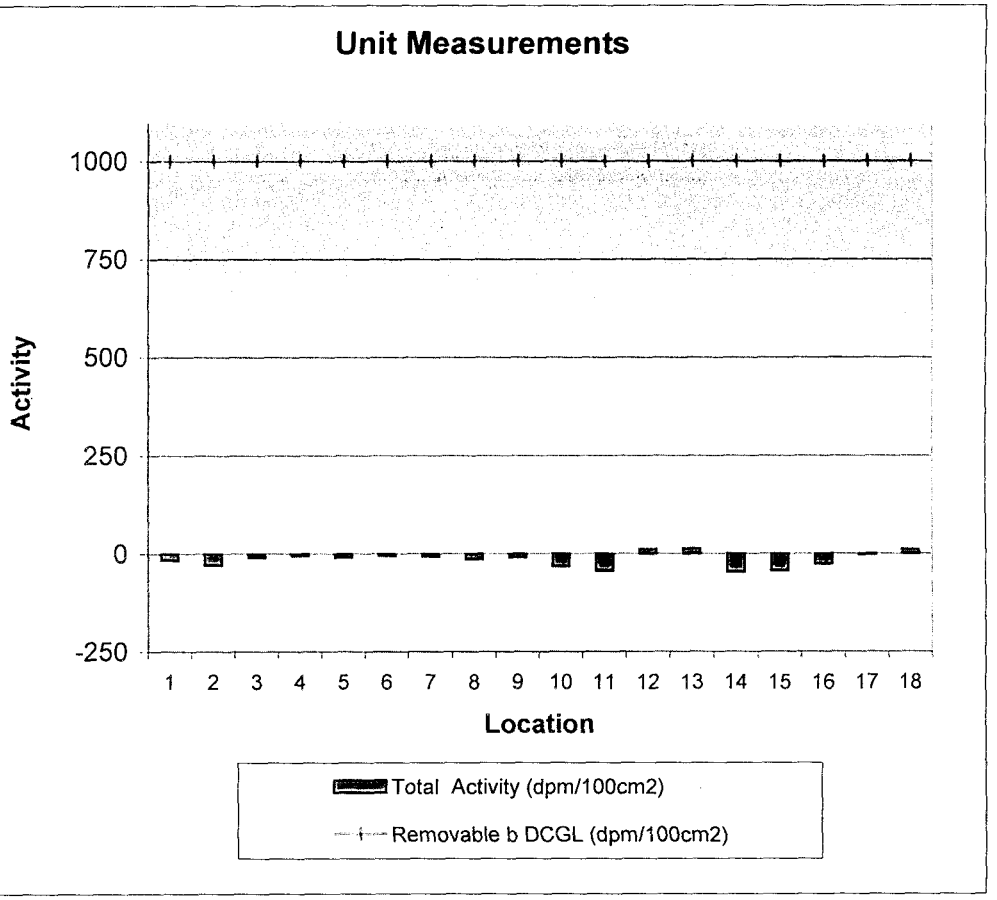
Removable Activity - Beta-Gamma

865008

7/17/01

				Instument:	155596
standard deviation:	18.6	max:	12.6	Instrument background:	98.0 cpm
mean:	-16.2	min:	-46.7	Instrument efficiency:	39.6%
median:	-8.8			Instrument MDA:	68 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable β DCGL (dpm/100cm^2)
1	865 N&S facing walls	91.5	98.0	-16.4	1000
2	865 N&S facing walls	86.5	98.0	-29.0	1000
3	865 N&S facing walls	94.5	98.0	-8.8	1000
4	865 N&S facing walls	96.0	98.0	-5.1	1000
5	865 N&S facing walls	94.5	98.0	-8.8	1000
6	865 N&S facing walls	96.0	98.0	-5.1	1000
7	865 N&S facing walls	95.5	98.0	-6.3	1000
8	865 N&S facing walls	92.5	98.0	-13.9	1000
9	865 N&S facing walls	94.5	98.0	-8.8	1000
10	865 N&S facing walls	85.5	98.0	-31.6	1000
11	865 N&S facing walls	81.0	98.0	-42.9	1000
12	865 N&S facing walls	102.5	98.0	11.4	1000
13	865 N&S facing walls	103.0	98.0	12.6	1000
14	865 N&S facing walls	79.5	98.0	-46.7	1000
15	865 N&S facing walls	81.0	98.0	-42.9	1000
16	865 N&S facing walls	87.5	98.0	-26.5	1000
17	865 N&S facing walls	97.0	98.0	-2.5	1000
18	865 N&S facing walls	102.0	98.0	10.1	1000

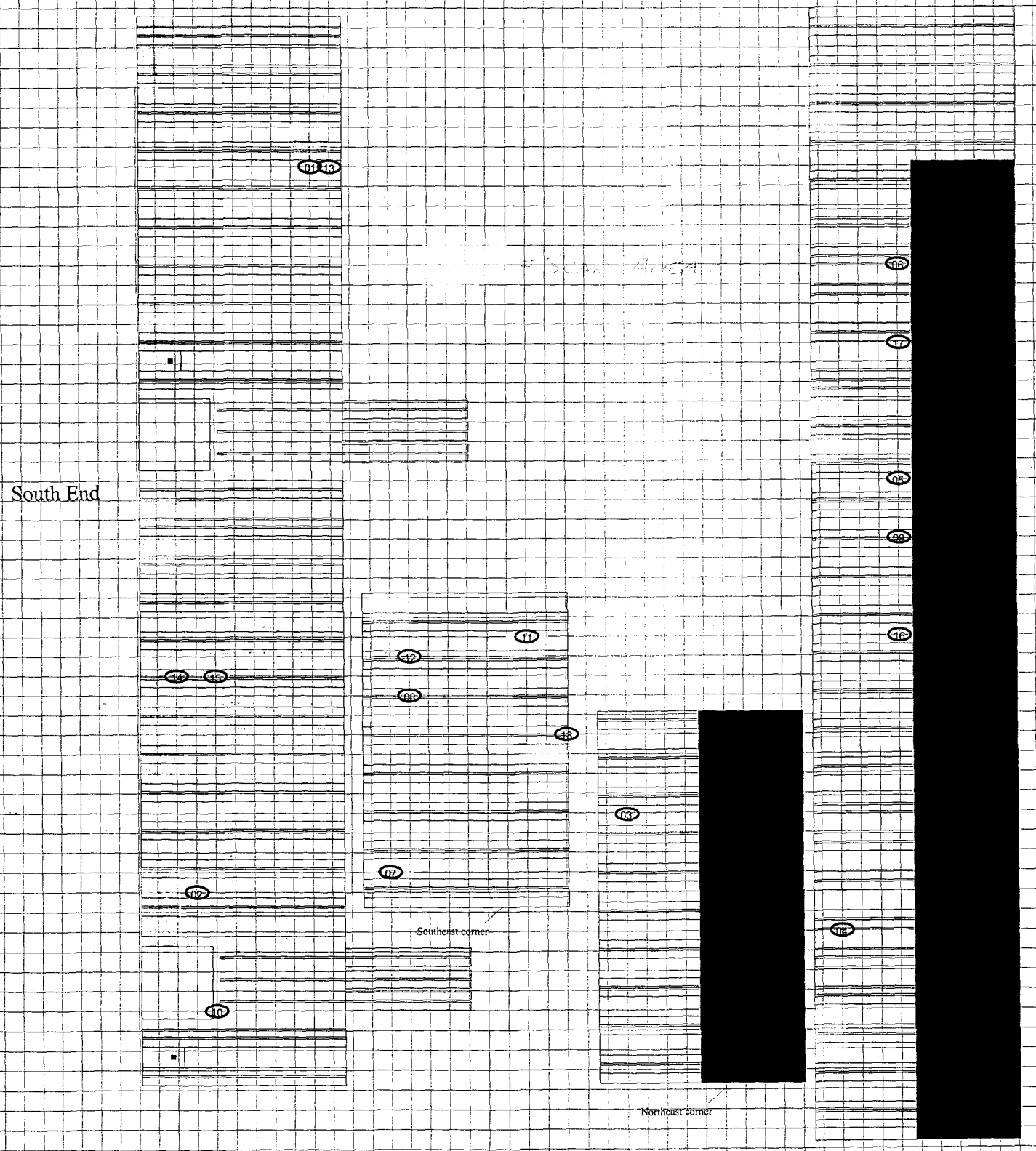


RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865008 **Survey Unit: 865008** **Classification: 3**
Building: 865
Survey Unit Description: Exterior Walls (north and south facing)

Total Floor Area: NA **Total Area: 1200 sq. m** **Grid Size: N/A**

SURVEY UNIT 865008 - MAP 1 OF 1



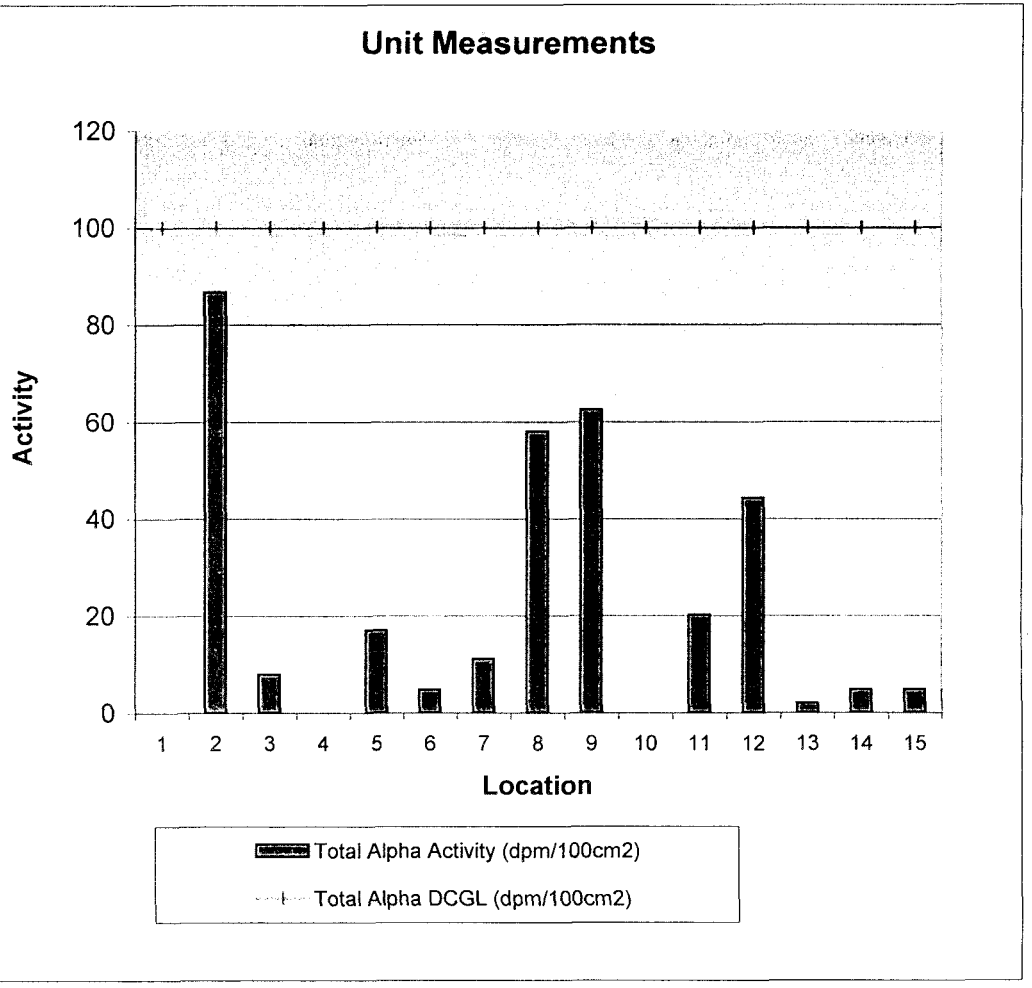
TSA Alpha

865009

7/25/01

				Instrument:	3114	1682	394	QC	3114
standard deviation:	28.2	max:	86.7	Ave. Instrument background:	2.2	2.2	2.3	cpm	2.2 cpm
mean:	21.0	min:	-4.2	Instrument efficiency:	22.0%	22.0%	21.8%		22.0%
median:	8.0			Instrument MDA:	48	48	48	dpm	48 dpm

	Surface Location	Total Alpha Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Alpha Activity (dpm/100cm^2)	Total Alpha DCGL (dpm/100cm^2)
1	865 east facing walls	1.3	0.7	-4.2	100
2	865 east facing walls	21.3	6.7	86.7	100
3	865 east facing walls	4.0	3.3	8.0	100
4	865 east facing walls	1.3	2.7	-4.2	100
5	865 east facing walls	6.0	2.0	17.1	100
6	865 east facing walls	3.3	2.0	4.8	100
7	865 east facing walls	4.7	0.7	11.2	100
8	865 east facing walls	15.0	4.7	58.0	100
9	865 east facing walls	16.0	2.7	62.6	100
10	865 east facing walls	2.0	0.0	-1.1	100
11	865 east facing walls	6.7	4.0	20.3	100
12	865 east facing walls	12.0	2.0	44.4	100
13	865 east facing walls	2.7	0.7	2.1	100
14	865 east facing walls	3.3	1.3	4.8	100
15	865 east facing walls	3.3	0.0	4.8	100
7 QC	865 east facing walls	4.0	1.3	8.0	100
15 QC	865 east facing walls	6.0	3.3	17.1	100



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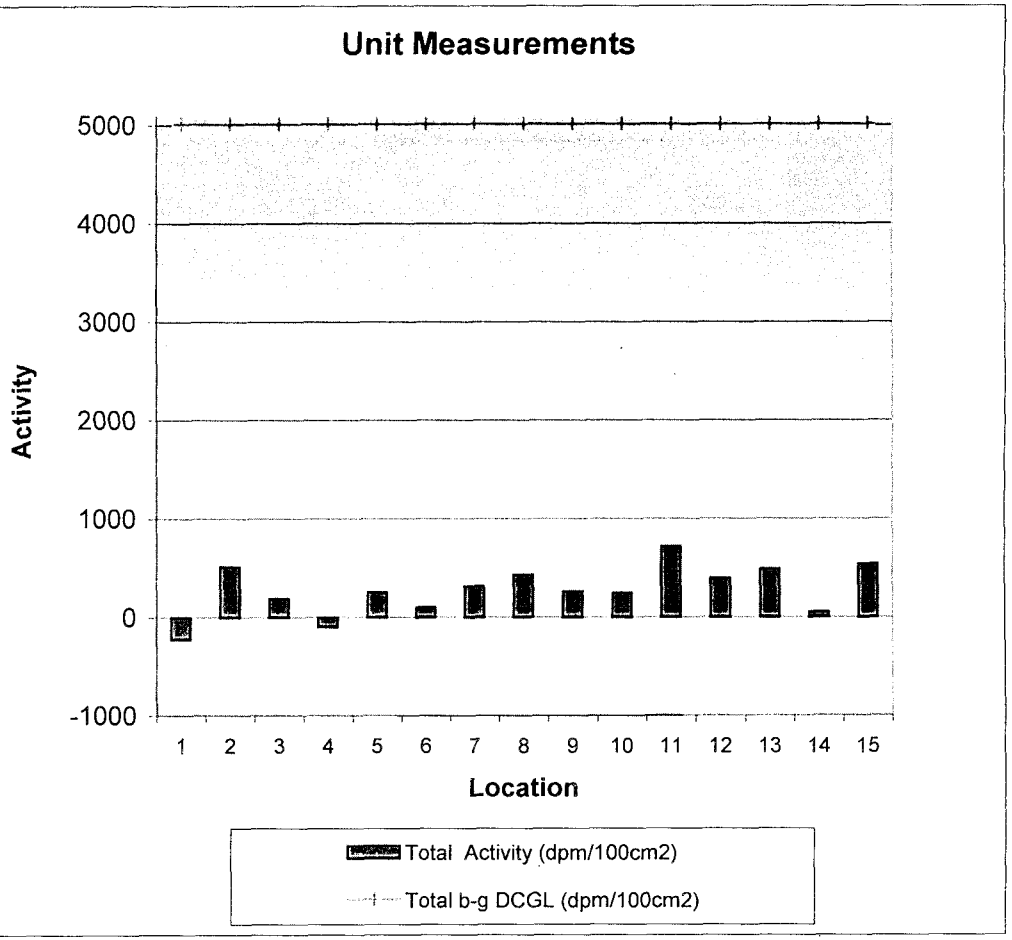
TSA Beta-Gamma

865009

7/25/01

				Instrument:	3114	1682	394 QC	3114
standard deviation:	250.4	max:	717.2	Ave. Instrument background:	498.4	498.4	585.0 cpm	498.4 cpm
mean:	277.0	min:	-223.5	Instrument efficiency:	32.4%	30.2%	28.5%	22.0%
median:	258.0			Instrument MDA:	261	322	272 dpm	244 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Total β–γ DCGL (dpm/100cm^2)
1	865 east facing walls	426	480	-223.5	5000
2	865 east facing walls	611	485	511.8	5000
3	865 east facing walls	559	469	187.0	5000
4	865 east facing walls	467	445	-96.9	5000
5	865 east facing walls	580	475	251.9	5000
6	865 east facing walls	529	495	101.3	5000
7	865 east facing walls	592	532	309.9	5000
8	865 east facing walls	637	455	427.8	5000
9	865 east facing walls	582	323	258.0	5000
10	865 east facing walls	578	485	245.7	5000
11	865 east facing walls	715	551	717.2	5000
12	865 east facing walls	617	518	392.7	5000
13	865 east facing walls	605	367	484.5	5000
14	865 east facing walls	514	579	51.7	5000
15	865 east facing walls	660	817	535.1	5000
7 QC	865 east facing walls	574	535	250.3	5000
15 QC	865 east facing walls	812	635	1038.4	5000



Removable Activity - Alpha

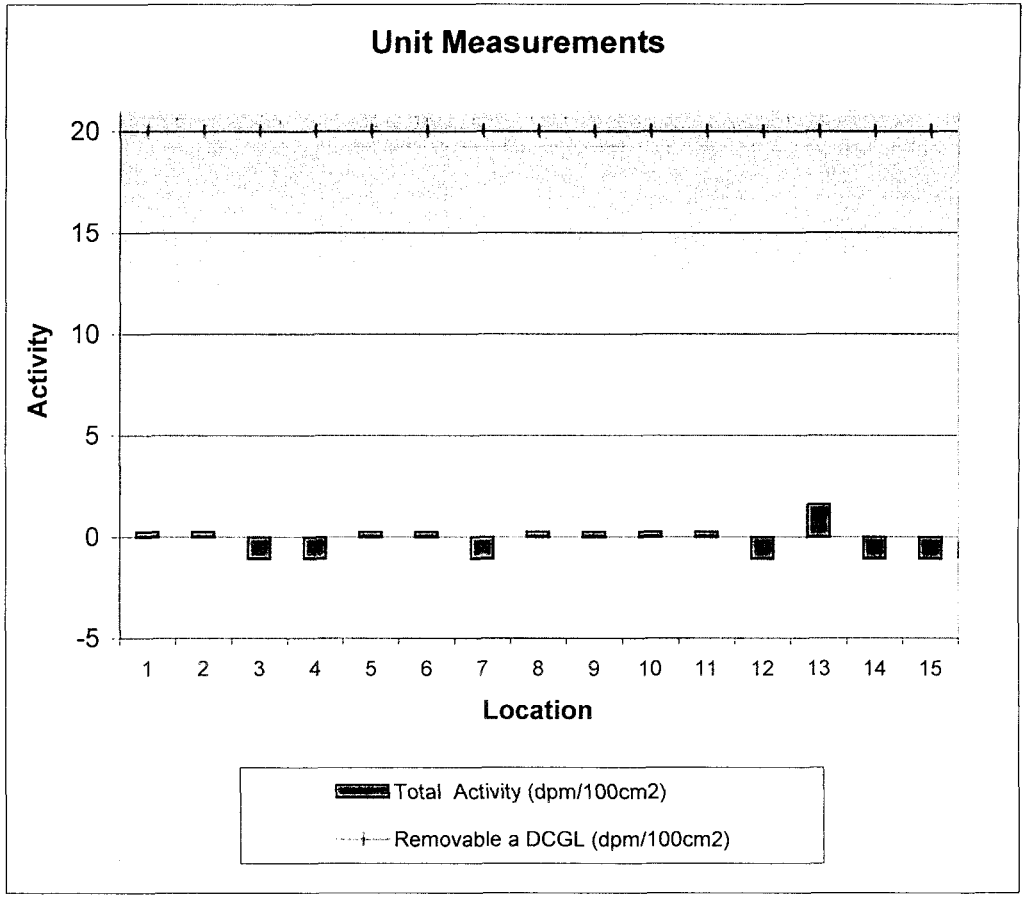
865009

7/19/01

standard deviation:	0.8	max:	1.6
mean:	-0.2	min:	-1.1
median:	0.3		

Instument:	155596 (7/19/01)	155596 (8/7/01)
Instrument background:	0.4 cpm	0.4 cpm
Instrument efficiency:	37.2%	37.2%
Instrument MDA:	8 dpm	9 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	865 east facing walls	0.5	0.4	0.3	20
2	865 east facing walls	0.5	0.4	0.3	20
3	865 east facing walls	0.0	0.4	-1.1	20
4	865 east facing walls	0.0	0.4	-1.1	20
5	865 east facing walls	0.5	0.4	0.3	20
6	865 east facing walls	0.5	0.4	0.3	20
7	865 east facing walls	0.0	0.4	-1.1	20
8	865 east facing walls	0.5	0.4	0.3	20
9	865 east facing walls	0.5	0.4	0.3	20
10	865 east facing walls	0.5	0.4	0.3	20
11	865 east facing walls	0.5	0.4	0.3	20
12	865 east facing walls	0.0	0.4	-1.1	20
13	865 east facing walls	1.0	0.4	1.6	20
14	865 east facing walls	0.0	0.4	-1.1	20
15	865 east facing walls	0.0	0.4	-1.1	20



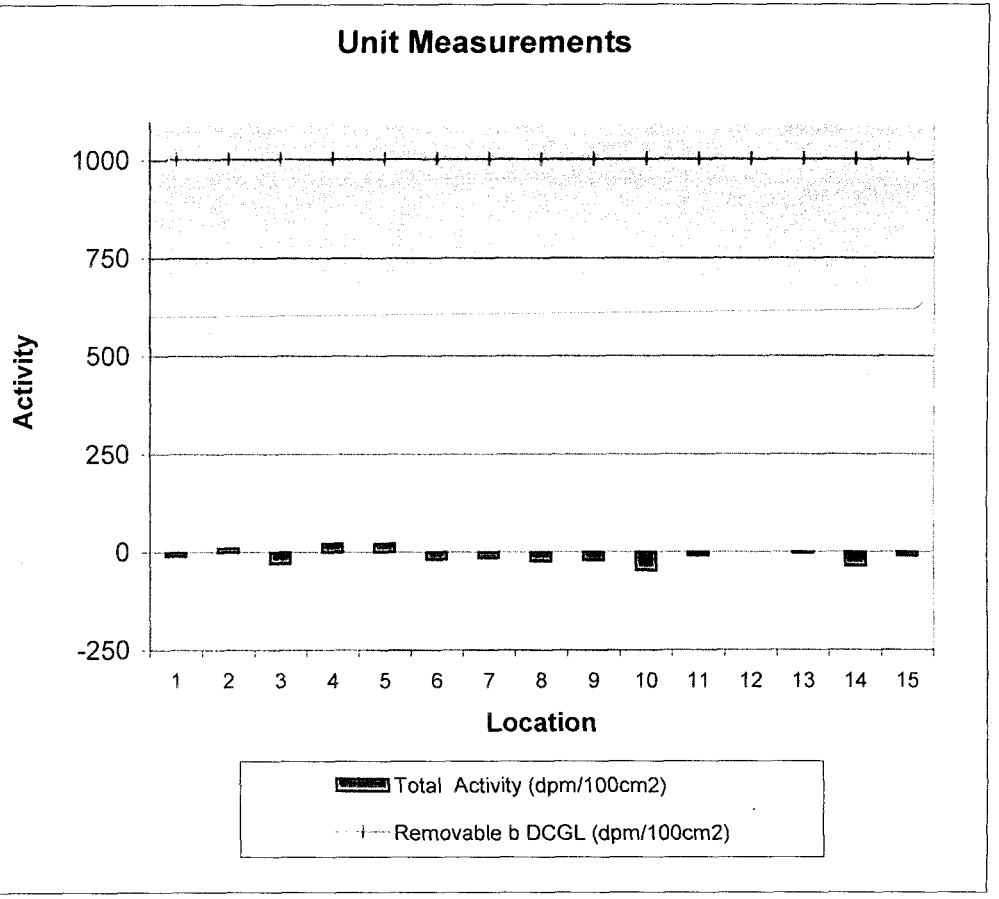
Removable Activity - Beta-Gamma

865009

7/19/01

				Instument:	155596 (7/19/01)	155596 (8/7/01)
standard deviation:	19.4	max:	21.5	Instrument background:	100.0 cpm	92.0 cpm
mean:	-11.1	min:	-46.7	Instrument efficiency:	39.6%	39.6%
median:	-10.1			Instrument MDA:	68 dpm	66 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable β DCGL (dpm/100cm^2)
1	865 east facing walls	96.0	100.0	-10.1	1000
2	865 east facing walls	104.0	100.0	10.1	1000
3	865 east facing walls	88.5	100.0	-29.0	1000
4	865 east facing walls	108.5	100.0	21.5	1000
5	865 east facing walls	108.5	100.0	21.5	1000
6	865 east facing walls	92.5	100.0	-18.9	1000
7	865 east facing walls	94.0	100.0	-15.2	1000
8	865 east facing walls	91.0	100.0	-22.7	1000
9	865 east facing walls	92.0	100.0	-20.2	1000
10	865 east facing walls	81.5	100.0	-46.7	1000
11	865 east facing walls	96.5	100.0	-8.8	1000
12	865 east facing walls	100.0	100.0	0.0	1000
13	865 east facing walls	99.0	100.0	-2.5	1000
14	865 east facing walls	86.0	100.0	-35.4	1000
15	865 east facing walls	96.0	100.0	-10.1	1000
16					
17					

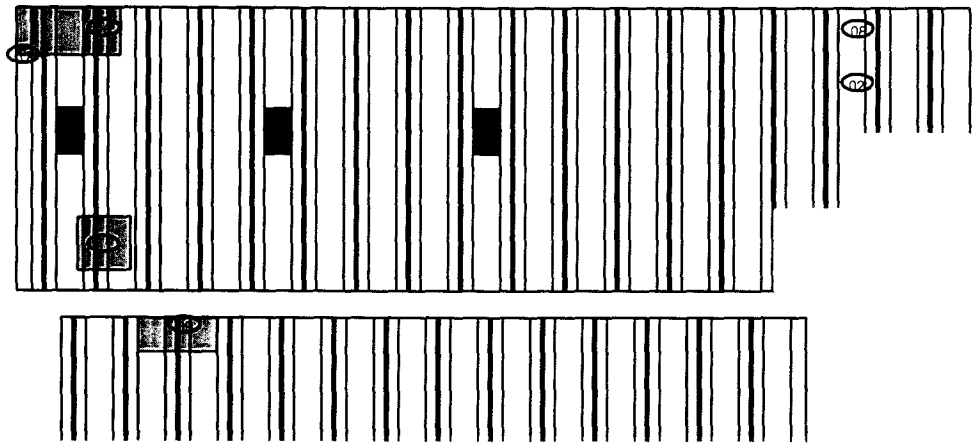


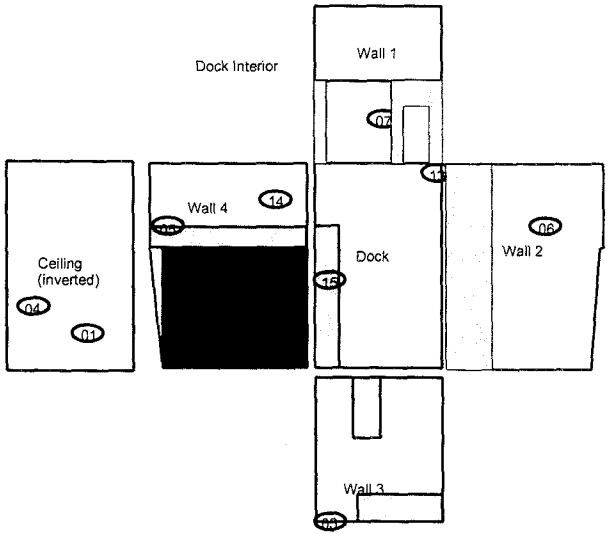
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865009 **Survey Unit: 865009** **Classification: 3**
Building: 865
Survey Unit Description: Exterior Walls (east facing)

Total Floor Area: NA **Total Area: 648 sq. m** **Grid Size: N/A**

SURVEY UNIT 865009 - MAP 1 OF 1





Scanned Areas

0 FEET 30
0 METERS 10

N

SURVEY MAP LEGEND
- # Smear & TSC Location
- # Smear, TSC & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

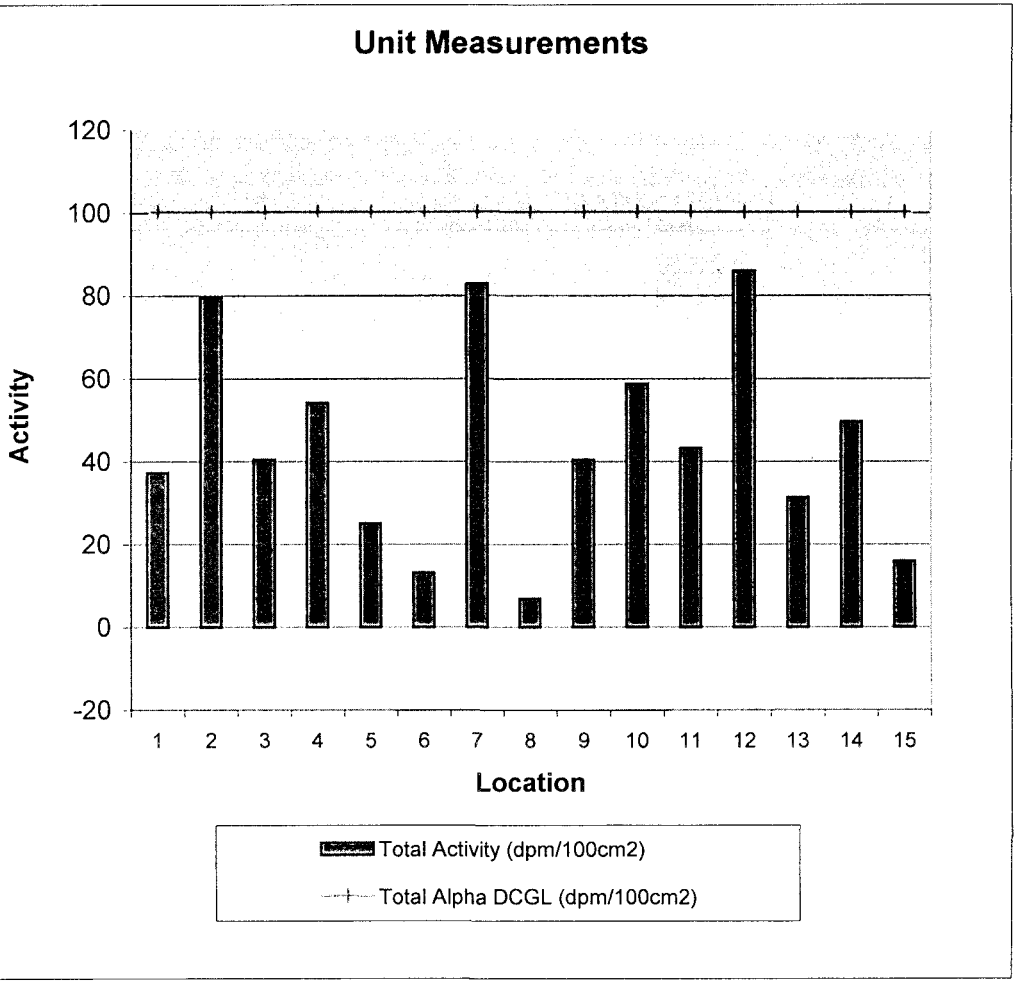
TSA Alpha

865010

7/25/01

					07/25/01	07/26/01	08/07/01	08/07/01	
				Instrument:	3114	3114	3114	394	QC
standard deviation:	24.8	max:	86.0	Ave. Instrument background:	3.8	3.8	3.8	4.5	cpm
mean:	44.3	min:	6.9	Instrument efficiency:	22.0%	22.0%	22.0%	21.8%	
median:	40.5			Instrument MDA:	48	48	48	48	dpm

	Surface Location	Total Alpha Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Total Alpha DCGL (dpm/100cm²)
1	S. section 865 roof	12.0	2.0	37.3	100
2	S. section 865 roof	21.3	5.3	79.6	100
3	S. section 865 roof	12.7	2.7	40.5	100
4	S. section 865 roof	15.7	4.0	54.2	100
5	S. section 865 roof	9.3	4.7	25.1	100
6	S. section 865 roof	6.7	2.0	13.2	100
7	S. section 865 roof	22.0	6.0	82.8	100
8	S. section 865 roof	5.3	1.3	6.9	100
9	S. section 865 roof	12.7	3.3	40.5	100
10	S. section 865 roof	16.7	10.7	58.7	100
11	S. section 865 roof	13.3	2.7	43.2	100
12	S. section 865 roof	22.7	4.7	86.0	100
13	S. section 865 roof	10.7	0.7	31.4	100
14	S. section 865 roof	14.7	4.0	49.6	100
15	S. section 865 roof	7.3	2.7	16.0	100
6 QC	S. section 865 roof	10.7	4.0	28.4	100
13 QC	S. section 865 roof	8.0	5.0	16.1	100



177

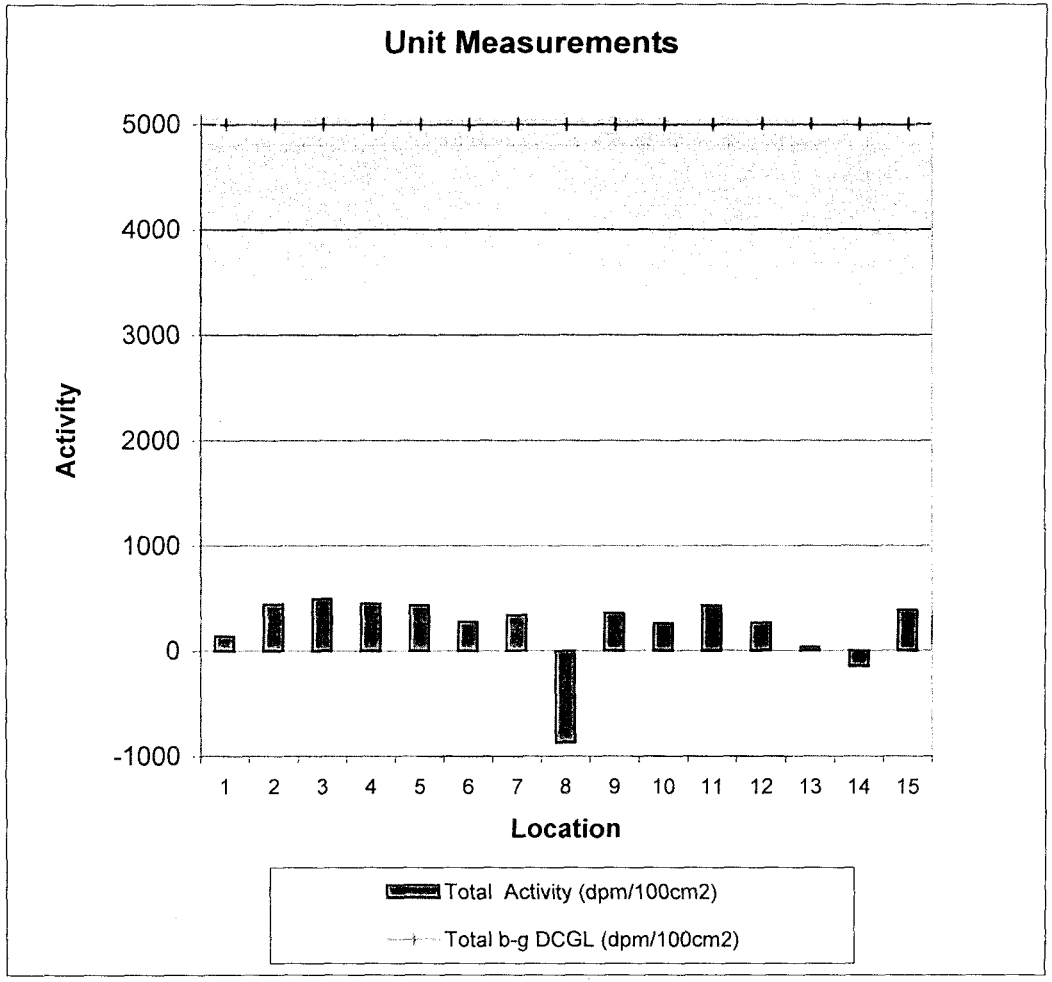
TSA Beta-Gamma

865010

8/7/01

					07/25/01	07/26/01	08/07/01	08/07/01	
				Instrument:	3114	3114	3114	394	QC
standard deviation:	348.3	max:	493.9	Ave. Instrument background:	574.3	574.3	574.3	587.0	cpm
mean:	220.3	min:	-869.7	Instrument efficiency:	22.0%	22.0%	22.0%	21.8%	
median:	339.4			Instrument MDA:	250	241	241	272	dpm

	Surface Location	Total Counts (cpm/100cm^2)	Local Area Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Total β–γ DCGL (dpm/100cm^2)
1	S. section 865 roof	605	491	139.4	5000
2	S. section 865 roof	672	508	443.9	5000
3	S. section 865 roof	683	643	493.9	5000
4	S. section 865 roof	673	549	448.5	5000
5	S. section 865 roof	670	598	434.8	5000
6	S. section 865 roof	635	723	275.8	5000
7	S. section 865 roof	649	611	339.4	5000
8	S. section 865 roof	383	633	-869.7	5000
9	S. section 865 roof	653	555	357.6	5000
10	S. section 865 roof	632	486	262.1	5000
11	S. section 865 roof	669	539	430.3	5000
12	S. section 865 roof	633	472	266.7	5000
13	S. section 865 roof	583	651	39.4	5000
14	S. section 865 roof	542	625	-147.0	5000
15	S. section 865 roof	660	531	389.4	5000
6 QC	S. section 865 roof	675	592	403.7	5000
13 QC	S. section 865 roof	678	582	417.4	5000



173

Removable Activity - Alpha

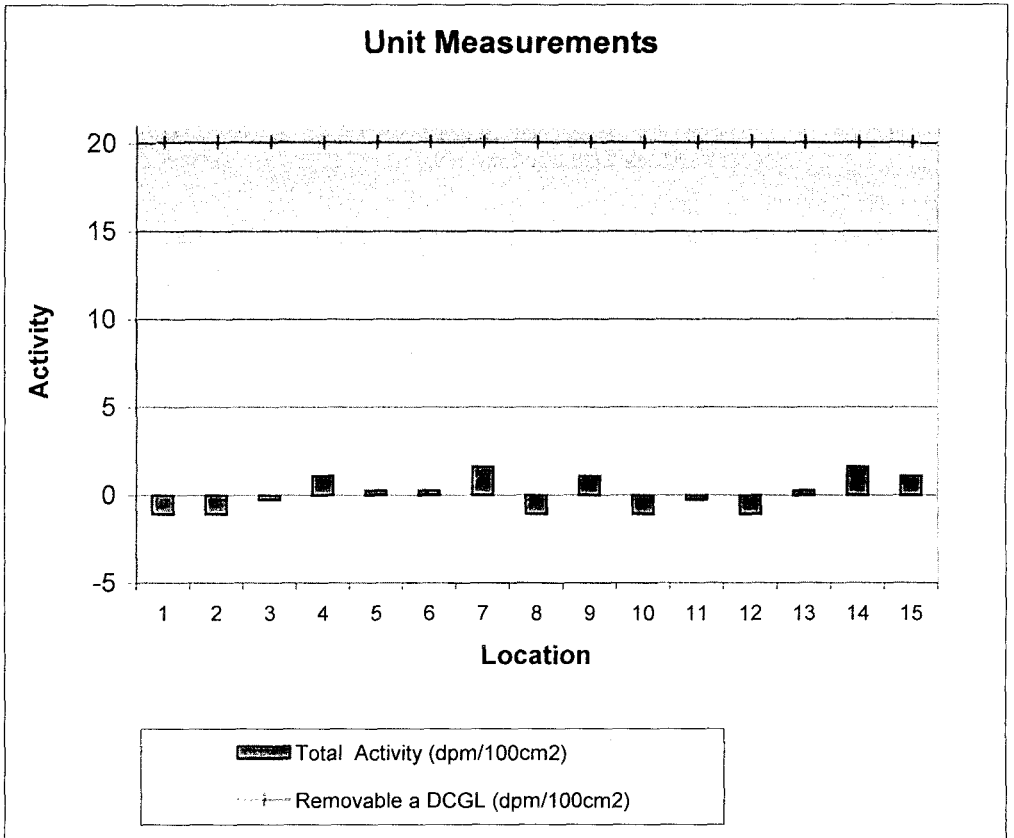
865010

7/25/01

standard deviation:	1.0	max:	1.6
mean:	0.1	min:	-1.1
median:	0.3		

Instrument:	155596 (7/26/01)	155596 (8/7/01)
Instrument background:	0.1 cpm	0.4 cpm
Instrument efficiency:	37.2%	37.2%
Instrument MDA:	7 dpm	9 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	S. section 865 roof	0.0	0.4	-1.1	20
2	S. section 865 roof	0.0	0.4	-1.1	20
3	S. section 865 roof	0.0	0.1	-0.3	20
4	S. section 865 roof	0.5	0.1	1.1	20
5	S. section 865 roof	0.5	0.4	0.3	20
6	S. section 865 roof	0.5	0.4	0.3	20
7	S. section 865 roof	1.0	0.4	1.6	20
8	S. section 865 roof	0.0	0.4	-1.1	20
9	S. section 865 roof	0.5	0.1	1.1	20
10	S. section 865 roof	0.0	0.4	-1.1	20
11	S. section 865 roof	0.0	0.1	-0.3	20
12	S. section 865 roof	0.0	0.4	-1.1	20
13	S. section 865 roof	0.5	0.4	0.3	20
14	S. section 865 roof	1.0	0.4	1.6	20
15	S. section 865 roof	0.5	0.1	1.1	20



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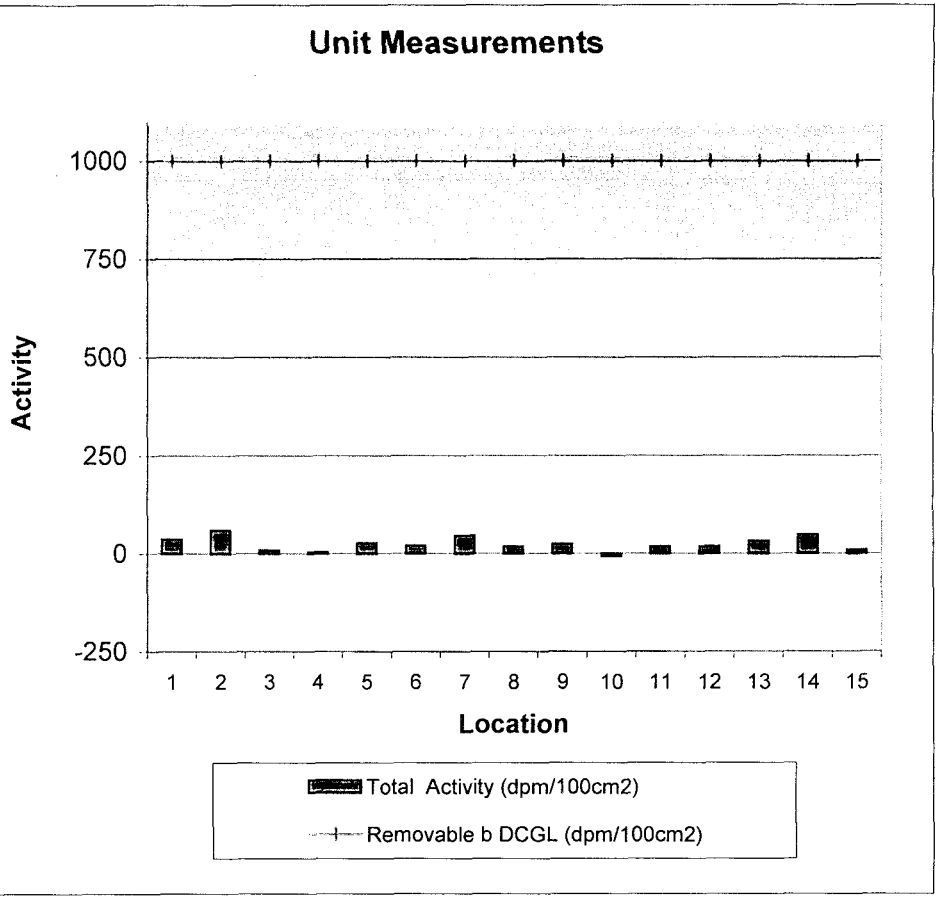
Removable Activity - Beta-Gamma

865010

7/25/01

				Instument:	155596 (7/26/01)	155596 (8/7/01)
standard deviation:	17.8	max:	59.3	Instrument background:	98.0 cpm	92.0 cpm
mean:	24.0	min:	-6.3	Instrument efficiency:	39.6%	39.6%
median:	20.2			Instrument MDA:	68 dpm	66 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable β DCGL (dpm/100cm^2)
1	S. section 865 roof	106.5	92.0	36.6	1000
2	S. section 865 roof	115.5	92.0	59.3	1000
3	S. section 865 roof	101.5	98.0	8.8	1000
4	S. section 865 roof	99.5	98.0	3.8	1000
5	S. section 865 roof	102.5	92.0	26.5	1000
6	S. section 865 roof	100.0	92.0	20.2	1000
7	S. section 865 roof	110.0	92.0	45.5	1000
8	S. section 865 roof	99.0	92.0	17.7	1000
9	S. section 865 roof	107.5	98.0	24.0	1000
10	S. section 865 roof	89.5	92.0	-6.3	1000
11	S. section 865 roof	105.0	98.0	17.7	1000
12	S. section 865 roof	99.0	92.0	17.7	1000
13	S. section 865 roof	104.5	92.0	31.6	1000
14	S. section 865 roof	111.0	92.0	48.0	1000
15	S. section 865 roof	101.5	98.0	8.8	1000



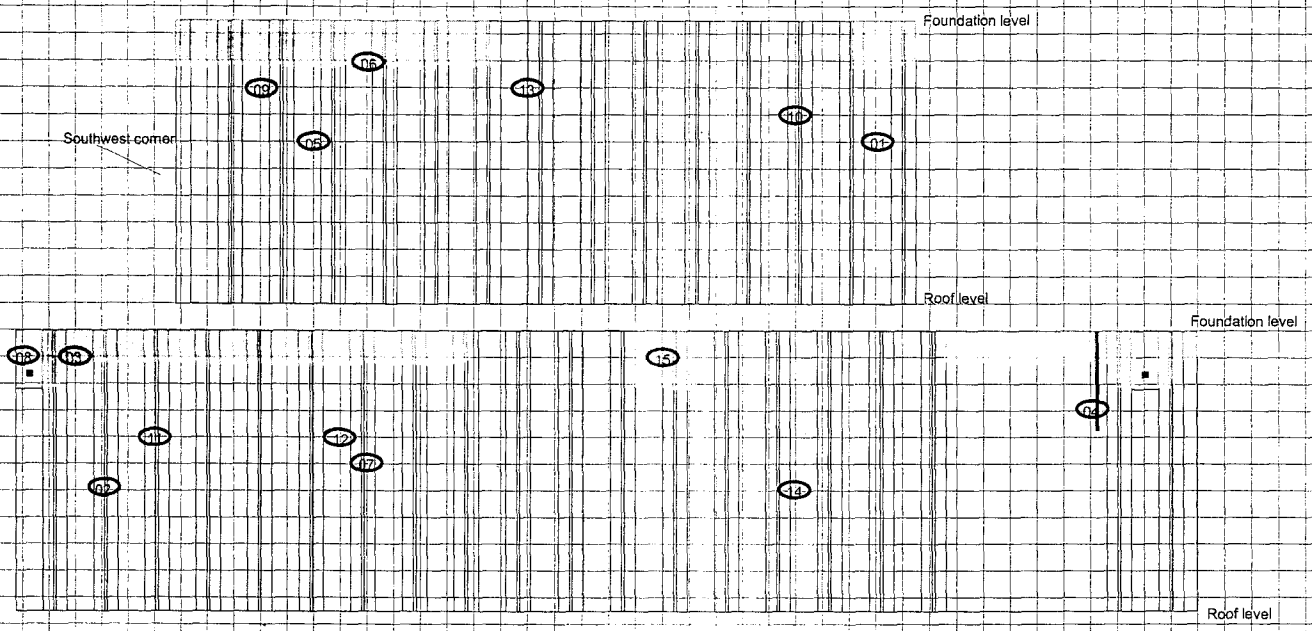
150

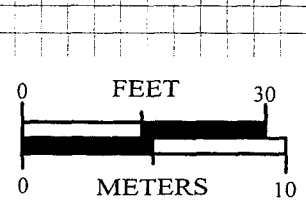
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865010 **Survey Unit: 865010** **Classification: 3**
Building: 865
Survey Unit Description: Exterior Walls (west end)

Total Floor Area: NA **Total Area: 751 sq. m** **Grid Size: N/A**

SURVEY UNIT 865010 - MAP 1 OF 1





N

SURVEY MAP LEGEND
- Smear & TSC Location
- Smear, TSC & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

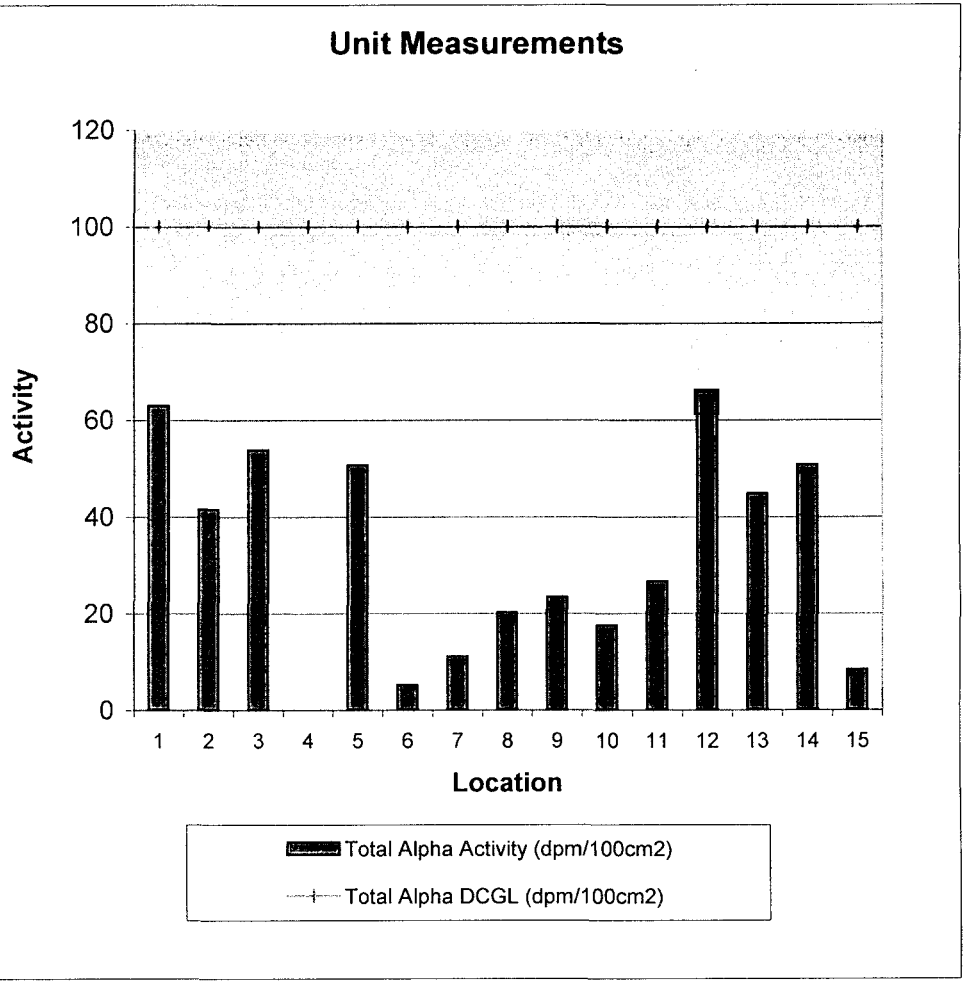
TSA Alpha

865012

8/1/01

				Instrument	1420 (7/24/01)	3114 (7/26/01)	394 QC
standard deviation:	22.3	max:	65.8	Ave. Instrument background:	4.8 cpm	4.8 cpm	1.4 cpm
mean:	32.0	min:	-3.8	Instrument efficiency:	22.0%	22.0%	21.8%
median:	26.7			Instrument MDA:	48 dpm	48 dpm	48 dpm

	Surface Location	Total Alpha Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Alpha Activity (dpm/100cm²)	Total Alpha DCGL (dpm/100cm²)
1	827, 866, 867, 868, & tanks	18.7	2.7	63.0	100
2	827, 866, 867, 868, & tanks	14.0	8.0	41.6	100
3	827, 866, 867, 868, & tanks	16.7	1.3	53.9	100
4	827, 866, 867, 868, & tanks	4.0	9.3	-3.8	100
5	827, 866, 867, 868, & tanks	16.0	6.0	50.7	100
6	827, 866, 867, 868, & tanks	6.0	1.3	5.3	100
7	827, 866, 867, 868, & tanks	7.3	3.3	11.2	100
8	827, 866, 867, 868, & tanks	9.3	8.0	20.2	100
9	827, 866, 867, 868, & tanks	10.0	4.7	23.5	100
10	827, 866, 867, 868, & tanks	8.7	4.7	17.6	100
11	827, 866, 867, 868, & tanks	10.7	2.7	26.7	100
12	827, 866, 867, 868, & tanks	19.3	5.3	65.8	100
13	827, 866, 867, 868, & tanks	14.7	2.7	44.9	100
14	827, 866, 867, 868, & tanks	16.0	2.0	50.8	100
15	827, 866, 867, 868, & tanks	6.7	10.7	8.4	100
9 QC	827, 866, 867, 868, & tanks	4.7	0.7	15.4	100
8 QC	827, 866, 867, 868, & tanks	6.7	2.0	24.5	100



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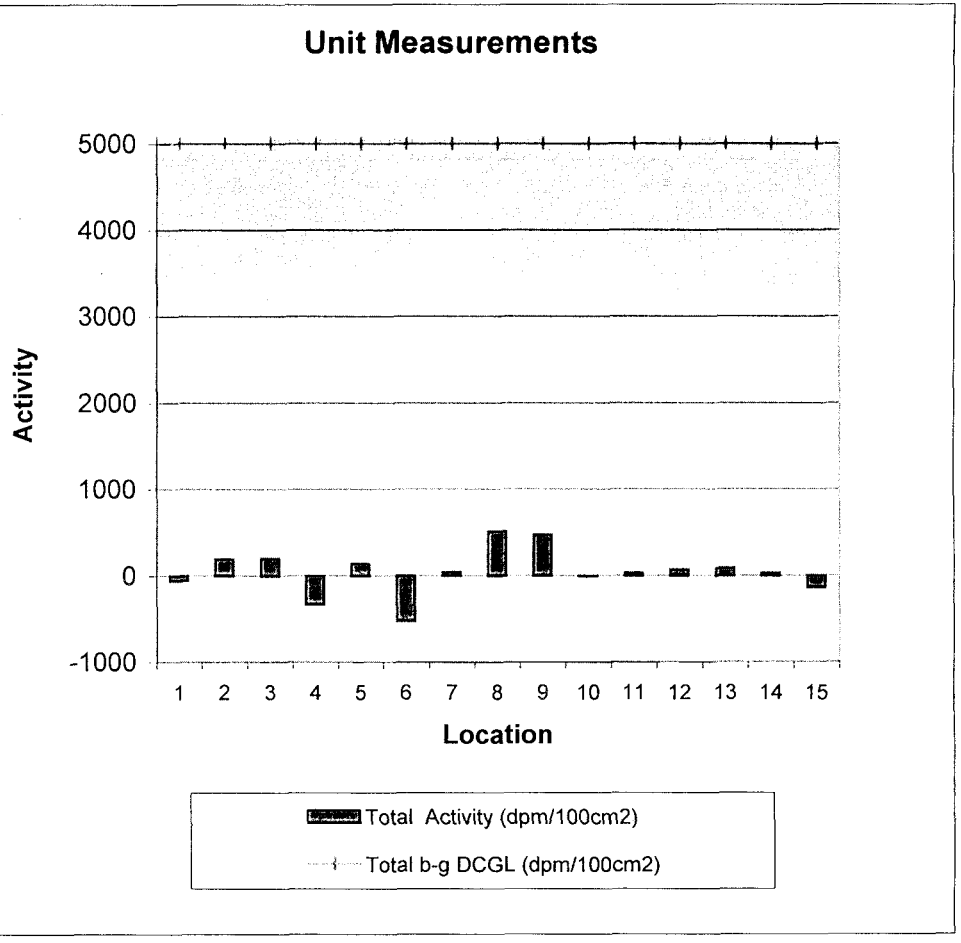
TSA Beta-Gamma

865012

8/1/01

				Instument	1420 (7/24/01)	3114 (7/26/01)	394 QC
standard deviation:	262.2	max:	510.0	Ave. Instrument background:	477.8 cpm	477.8 cpm	477.0 cpm
mean:	47.0	min:	-523.0	Instrument efficiency:	22.0%	22.0%	28.5%
median:	37.4			Instrument MDA:	229 dpm	241 dpm	259 dpm

	Surface Location	Total Counts (cpm/100cm²)	Local Area Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Total β-γ DCGL (dpm/100cm²)
1	827, 866, 867, 868, & tanks	465.0	439.0	-58.2	5000
2	827, 866, 867, 868, & tanks	520.0	496.0	191.8	5000
3	827, 866, 867, 868, & tanks	521.0	482.0	196.4	5000
4	827, 866, 867, 868, & tanks	405.0	394.0	-330.9	5000
5	827, 866, 867, 868, & tanks	508.0	472.0	137.3	5000
6	827, 866, 867, 868, & tanks	363.0	355.0	-523.0	5000
7	827, 866, 867, 868, & tanks	486.0	519.0	37.4	5000
8	827, 866, 867, 868, & tanks	590.0	652.0	510.0	5000
9	827, 866, 867, 868, & tanks	581.0	506.0	470.2	5000
10	827, 866, 867, 868, & tanks	476.0	497.0	-8.2	5000
11	827, 866, 867, 868, & tanks	485.0	465.0	32.8	5000
12	827, 866, 867, 868, & tanks	493.0	479.0	69.2	5000
13	827, 866, 867, 868, & tanks	497.0	479.0	87.5	5000
14	827, 866, 867, 868, & tanks	484.0	515.0	28.2	5000
15	827, 866, 867, 868, & tanks	448.0	417.0	-135.5	5000
9 QC	827, 866, 867, 868, & tanks	537.0	447.0	210.5	5000
8 QC	827, 866, 867, 868, & tanks	507.0	477.0	105.3	5000



A13

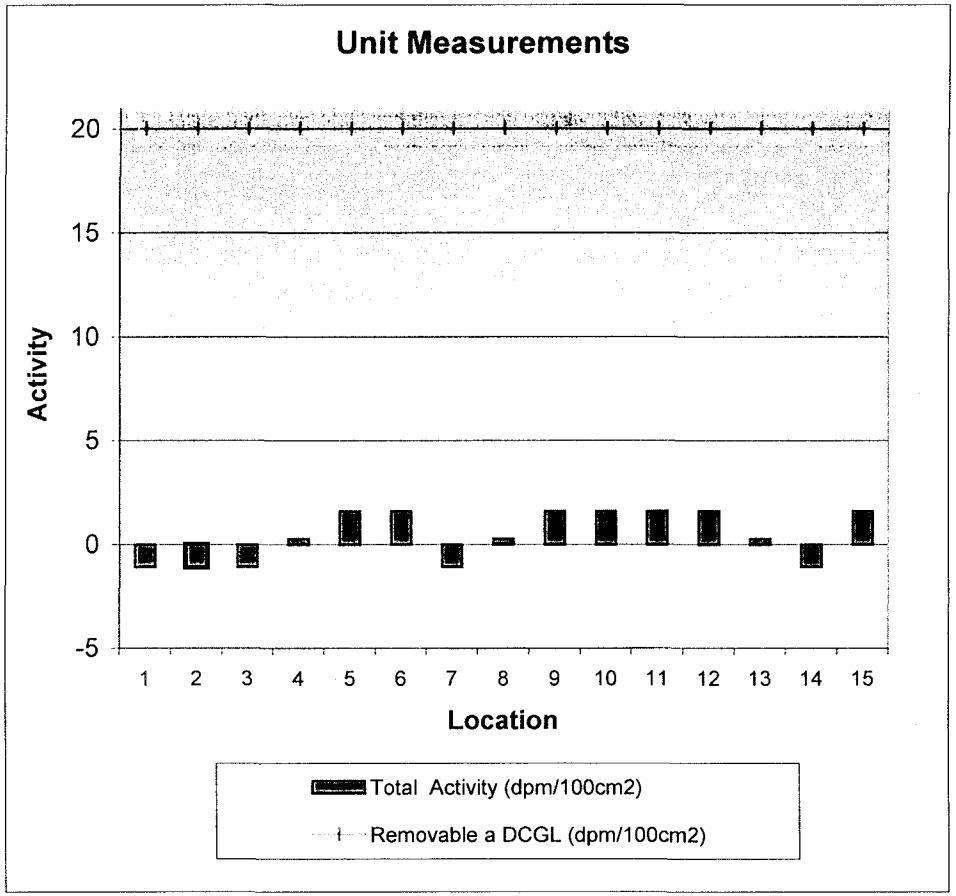
Removable Activity - Alpha

865012

7/24/01

				Instument:	155596
standard deviation:	1.2	max:	1.6	Instrument background:	0.4 cpm
mean:	0.4	min:	-1.1	Instrument efficiency:	37.2%
median:	0.3			Instrument MDA:	6 dpm

	Surface Location	Total Counts (cpm/100cm^2)	Bkgd (cpm/100cm^2)	Total Activity (dpm/100cm^2)	Removable α DCGL (dpm/100cm^2)
1	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
2	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
3	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
4	827, 866, 867, 868, & tanks	0.5	0.4	0.3	20
5	827, 866, 867, 868, & tanks	1.0	0.4	1.6	20
6	827, 866, 867, 868, & tanks	1.0	0.4	1.6	20
7	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
8	827, 866, 867, 868, & tanks	0.5	0.4	0.3	20
9	827, 866, 867, 868, & tanks	1.0	0.4	1.6	20
10	827, 866, 867, 868, & tanks	1.0	0.4	1.6	20
11	827, 866, 867, 868, & tanks	1.0	0.4	1.6	20
12	827, 866, 867, 868, & tanks	1.0	0.4	1.6	20
13	827, 866, 867, 868, & tanks	0.5	0.4	0.3	20
14	827, 866, 867, 868, & tanks	0.0	0.4	-1.1	20
15	827, 866, 867, 868, & tanks	1.0	0.4	1.6	20



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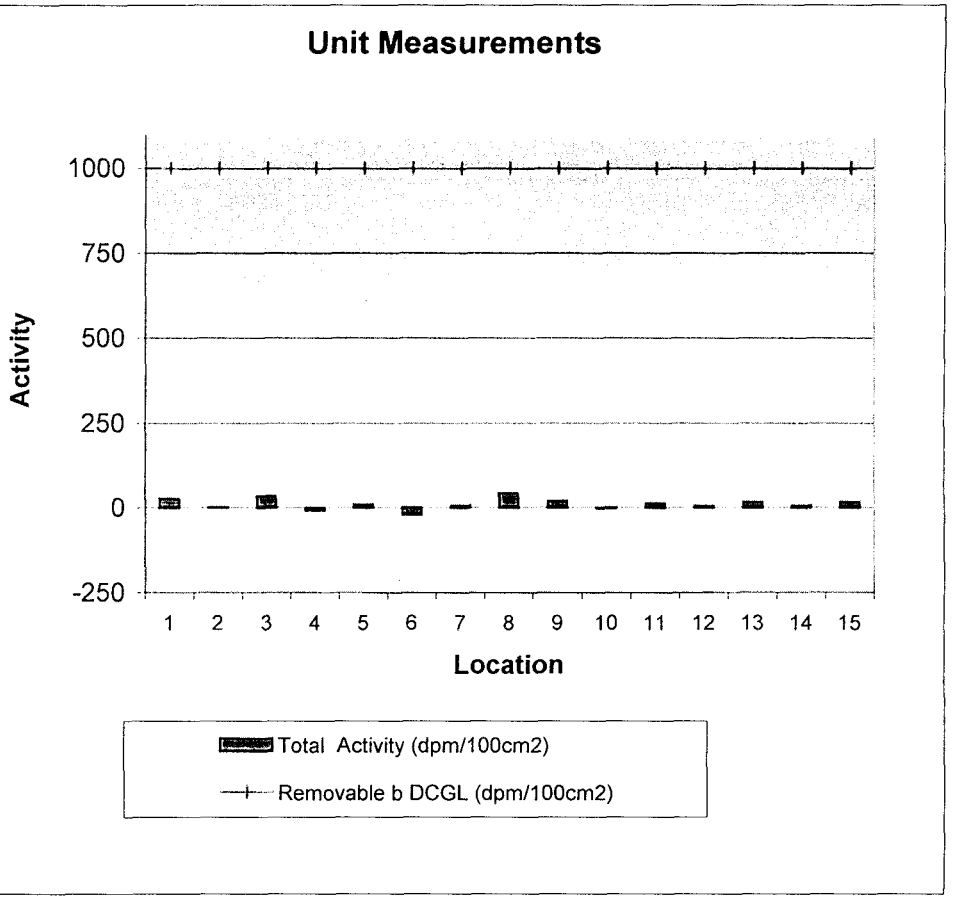
Removable Activity - Beta-Gamma

865012

7/24/01

				Instument:	155596
standard deviation:	16.0	max:	42.9	Instrument background:	90.0 cpm
mean:	11.3	min:	-20.2	Instrument efficiency:	39.6%
median:	10.1			Instrument MDA:	65 dpm

	Surface Location	Total Counts (cpm/100cm²)	Bkgd (cpm/100cm²)	Total Activity (dpm/100cm²)	Removable β DCGL (dpm/100cm²)
1	827, 866, 867, 868, & tanks	100.5	90.0	26.5	1000
2	827, 866, 867, 868, & tanks	90.5	90.0	1.3	1000
3	827, 866, 867, 868, & tanks	103.5	90.0	34.1	1000
4	827, 866, 867, 868, & tanks	87.0	90.0	-7.6	1000
5	827, 866, 867, 868, & tanks	94.0	90.0	10.1	1000
6	827, 866, 867, 868, & tanks	82.0	90.0	-20.2	1000
7	827, 866, 867, 868, & tanks	92.5	90.0	6.3	1000
8	827, 866, 867, 868, & tanks	107.0	90.0	42.9	1000
9	827, 866, 867, 868, & tanks	98.0	90.0	20.2	1000
10	827, 866, 867, 868, & tanks	89.5	90.0	-1.3	1000
11	827, 866, 867, 868, & tanks	95.0	90.0	12.6	1000
12	827, 866, 867, 868, & tanks	92.0	90.0	5.1	1000
13	827, 866, 867, 868, & tanks	96.5	90.0	16.4	1000
14	827, 866, 867, 868, & tanks	92.5	90.0	6.3	1000
15	827, 866, 867, 868, & tanks	96.5	90.0	16.4	1000

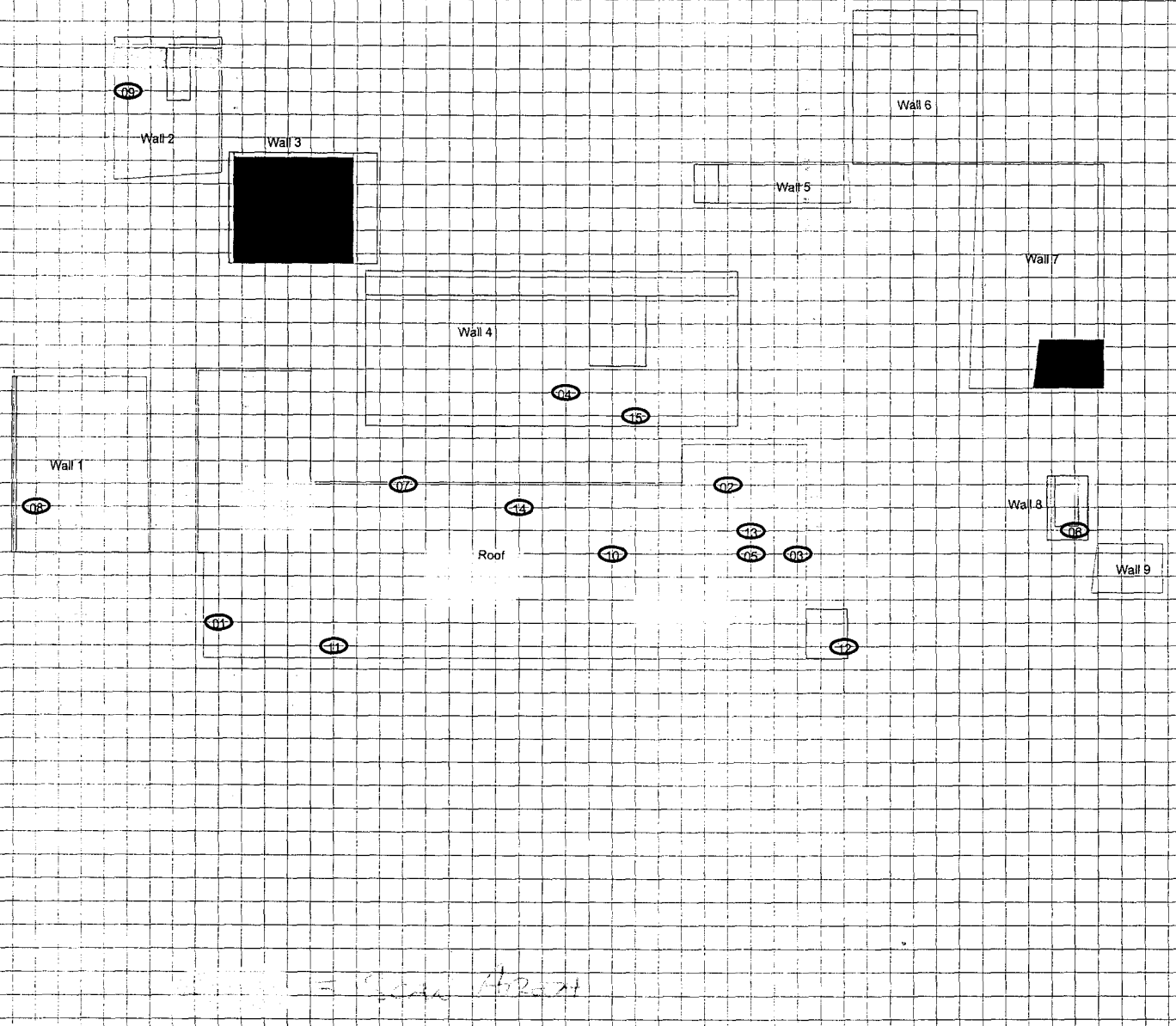


RADIOLOGICAL CLOSEOUT SURVEY FOR THE 865 CLUSTER

Survey Area: 865012 **Survey Unit: 865012** **Classification: 3**
Building: 865
Survey Unit Description: 865 East Addition Exterior

Total Floor Area: NA **Total Area: 527 sq. m** **Grid Size: N/A**

SURVEY UNIT 865012 - MAP 1 OF 1



0 FEET 30
0 METERS 10

N

SURVEY MAP LEGEND
- # Smear & TSC Location
- # Smear, TSC & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

ATTACHMENT F

Chemical Data Summaries and Sample Maps

Table F-1 Asbestos Data Summary, Building 866

Sample Number	Material Sampled & Location	Analytical Results
866-07122001-315-101	Hard, white fitting (<6" OD) on condensate line above double entry doors	None Detected
866-07122001-315-102	White pipe wrap on steam line (<6" OD) above double entry doors	None Detected

Survey Area:	A	Survey Unit:	N/A	Building/Structure:	866

Survey Unit/Area Description: Interior surfaces & Equipment in B866 (ASBESTOS SAMPLE LOCATIONS)

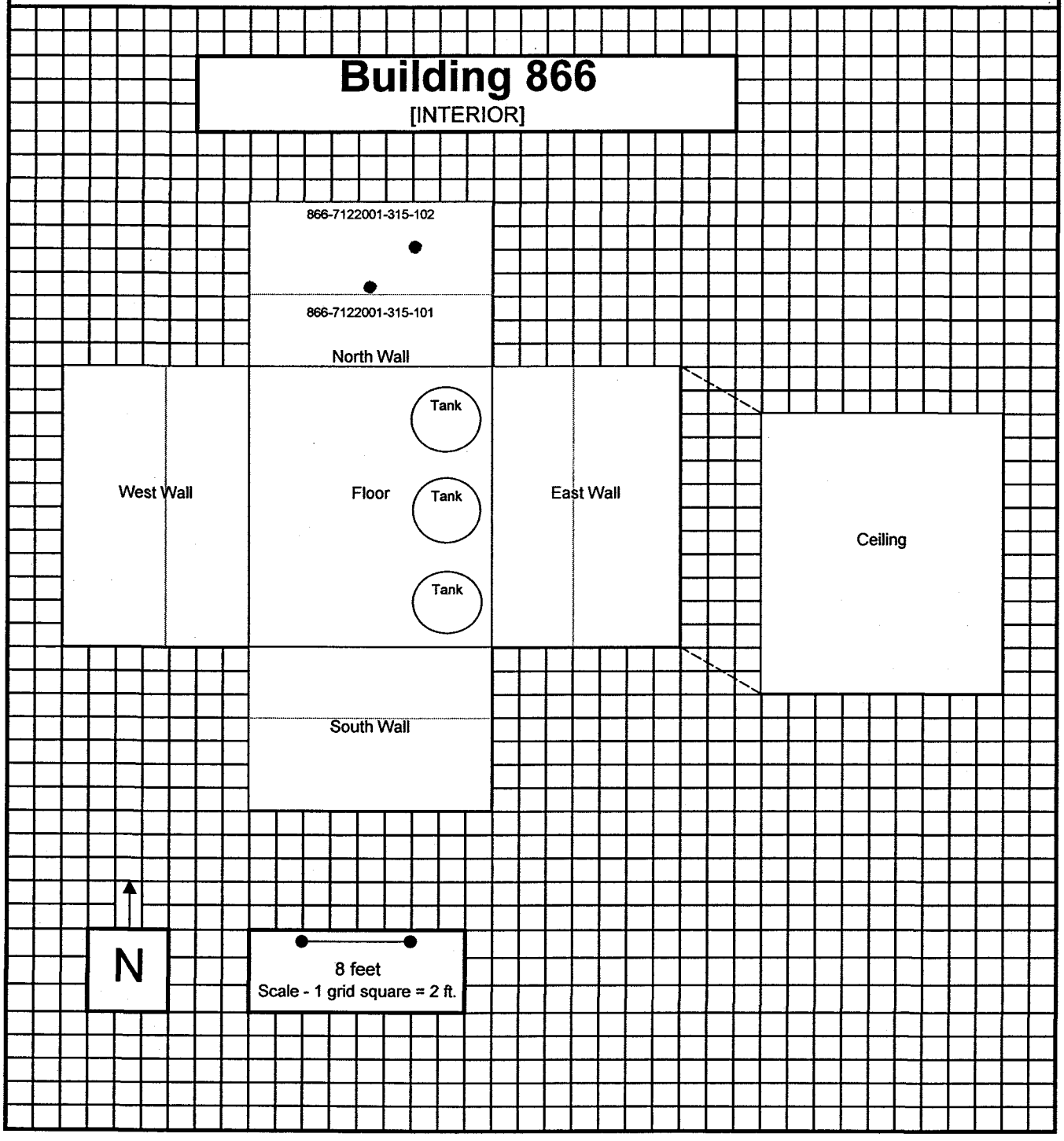


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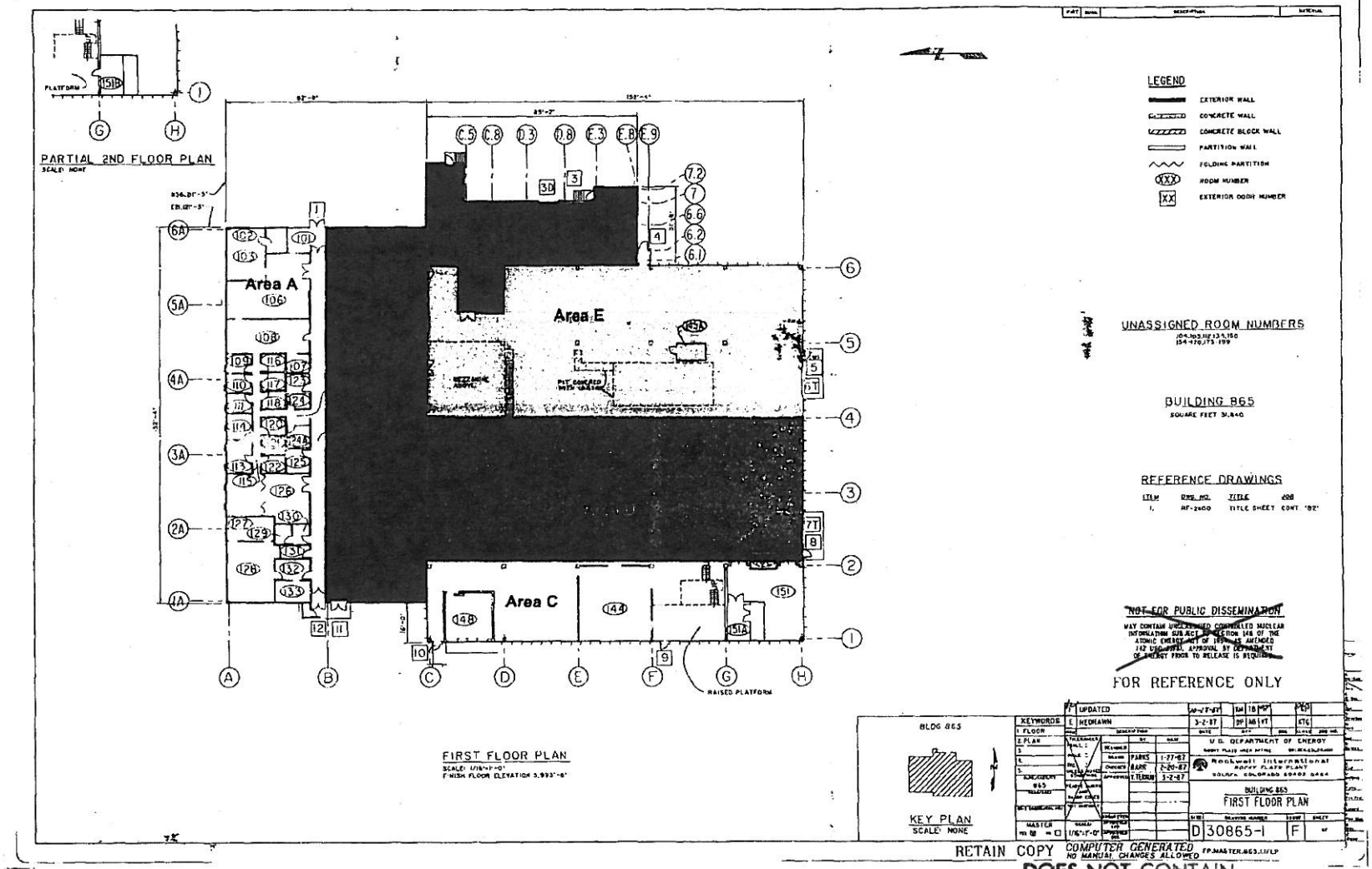
Table F-2 B865 Beryllium Data Summary, MSC Data

SURVEY AREA	A	B	C	D	E
Floors and Lower Walls (<2 meters)					
Be Smears					
Number of Be Samples:	53	58	95	0	0
Minimum Be Sample Value (µg/100 cm^2):	ND	ND	ND	0	0
Maximum Be Sample Value (µg/100 cm^2):	0.08	0.67	9.23	0	0
Number of Be Sample Samples >0.2 µg/100 cm^2:	0	3	49	0	0
Number of Be Sample Samples >3.0 µg/100 cm^2:	0	0	31	0	0
Number of Be Sample Samples >20.0 µg/100 cm^2:	0	0	0	0	0
Upper Walls (>2 meters) and Ceilings					
Be Smears					
Number of Be Samples:	42	97	147	60	70
Minimum Be Sample Value (µg/100 cm^2):	ND	ND	ND	ND	ND
Maximum Be Sample Value (µg/100 cm^2):	0.05	25.17	0.48	1.2	0.064
Number of Be Sample Samples >0.2 µg/100 cm^2:	0	15	24	2	0
Number of Be Sample Samples >3.0 µg/100 cm^2:	0	3	0	0	0
Number of Be Sample Samples >20.0 µg/100 cm^2:	0	1	0	0	0
Equipment					
Be Smears					
Number of Be Samples:	0	3	12	4	0
Minimum Be Sample Value (µg/100 cm^2):	0	0.64	0	0.021	0
Maximum Be Sample Value (µg/100 cm^2):	0	3.9	0.44	22.0	0
Number of Be Sample Samples >0.2 µg/100 cm^2:	0	3	9	1	0
Number of Be Sample Samples >3.0 µg/100 cm^2:	0	1	0	1	0
Number of Be Sample Samples >20.0 µg/100 cm^2:	0	0	0	1	0



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Reviewing Official: J. A. NESHEIM
EM C&C Classification Officer

Date: 10-13-08

Table F-3 B865 Beryllium Data Summary, ORNL Data

Location	Number of Be Samples	Minimum Be Sample Value (µg/100 cm^2)	Maximum Be Sample Value (µg/100 cm^2)
Room 136 Floor	25	0.00029	0.00230
Room 136 Lower Walls	14	0.00008	0.00099
Room 145 Floor	190	0.00008	0.02400
Room 145 Lower Walls	44	0.00008	0.01090
Room 146 Lower Walls	2	0.00020	0.00022
Room 147 Floor	2	0.00021	0.00025
Room 147 Lower Walls	1	0.00008	0.00008
Room 148 Floor	4	0.00054	0.00079
Room 148 Lower Walls	5	0.00020	0.00042
Room 153 Floor	3	0.00008	0.00140
Room 153 Lower Walls	4	0.00008	0.00008
Room HIP Floor	4	0.00021	0.00056
Room HIP Lower Walls	3	0.00008	0.00008

Table F-4 Beryllium Data Summary of Trenches, Pits, Sumps, and Fume Hoods

Sample Number	Sample Location	Result ($\mu g/100\ cm^2$)
865-7242001-315-101	Room 144, Bottom of sump pit, north wall, horizontal surface	3.70
865-7242001-315-102	Room 144, Top edge of sump pit, horizontal surface	6.00
865-7242001-315-103	Room 151A, Bottom of sump pit, NE corner, horizontal surface	15.0
865-7242001-315-104	Room 151A, Bottom of trench, south central, horizontal surface	0.33
865-7242001-315-105	Room 145, Siemens-Allis Ram, west side I-beam, horizontal surface	0.82
865-7242001-315-106	Room 145, Siemens-Allis Ram, north 6' pit; bottom, horizontal surface	1.80
865-7242001-315-107	Room 145, Siemens-Allis Ram, north pit, extreme bottom (3' x 3') pit inside 12' pit, horizontal surface	0.12
865-7242001-315-108	Room 145, Siemens-Allis Ram, north pit, bottom of 12' pit, vertical surface	0.42
865-7242001-315-109	Room 145, Siemens-Allis Ram, Bottom of central 4' pit, horizontal surface	<0.1
865-7242001-315-110	Room 145, Siemens-Allis Ram, bottom of central 4' pit, horizontal surface	<0.1
865-7242001-315-111	Room 145, Siemens-Allis Ram, bottom of south 3' pit, horizontal	<0.1
865-7242001-315-112	Room 145, Siemens-Allis Ram, bottom of south 3' pit, top of pipe	<0.1
865-7242001-315-113	Room 145, L trench, NE of SA Ram, bottom horizontal surface	6.00
865-7242001-315-114	Room 145, L trench, north L, bottom horizontal	1.80
865-7242001-315-115	Room 145, DU Roller, south pit bottom horizontal	0.15
865-7242001-315-116	Room 145, DU Roller, north pit, bottom horizontal	0.74
865-7242001-315-117	Room 145, 6-Ton Scale, pit bottom, horizontal	0.31
865-7242001-315-118	Room 145, 6-Ton Scale, pit bottom, horizontal	0.97
865-7242001-315-119	Room 145,Vertical Mill sump, NE corner, horizontal surface	0.70
865-7242001-315-120	Room 145, Vertical Mill sump, NE corner, horizontal surface	0.63
865-7242001-315-121	Room 145, Orange Erie Press, bottom of 9' pit	<0.1
865-7242001-315-122	Room 145, Orange Erie Press, bottom of 9' pit	0.30
865-7242001-315-123	Room 145, Gray Erie Hammer Mill, SE corner, bottom of 12' pit	0.12
865-7242001-315-124	Room 145, Gray Erie Hammer Mill, SE corner, bottom of 12' pit	0.21
865-7242001-315-125	Room 145, X-ray pit	17.0
865-7242001-315-126	Room 145, X-ray pit	20.0
865-7242001-315-127	Room 153, BE Press, conduit trench	<0.1
865-7242001-315-128	Room 153, BE Press, conduit trench	0.13
865-7242001-315-129	Room 153, BE Press, conduit trench	0.43
865-7242001-315-130	Room 153, BE Press, conduit trench	2.50

Sample Number	Sample Location	Result ($ug/100\ cm^2$)
865-7252001-315-131	Room 145, central sump pit trench	0.33
865-7252001-315-132	Room 145, central sump, sump cover	2.80
865-7252001-315-133	Room 145, central sump, bottom of pit	0.19
865-7252001-315-134	Room 145, central sump, bottom of pit	0.25
865-7252001-315-135	Room 106, East fume hood, top of fluorescent light	1.60
865-7252001-315-136	Room 106, East fume hood, mid-vertical surface	3.10
865-7252001-315-137	Room 106, West fume hood, inside rear slit	0.26
865-7252001-315-138	Room 106, West fume hood, vertical surface	1.80
865-7252001-315-139	Room 136, Machine shop, electrical conduit trench	<0.1
865-7252001-315-140	Room 136, Machine shop, electrical conduit trench	<0.1
865-7252001-315-141	Room 136, Machine shop, electrical conduit trench	<0.1
865-07262001-01-10	Room 145, on pipe inside the pit, north of the X-ray pit	1.90
865-07262001-01-11	Room 145, on floor inside the pit, north of the X-ray pit	1.50

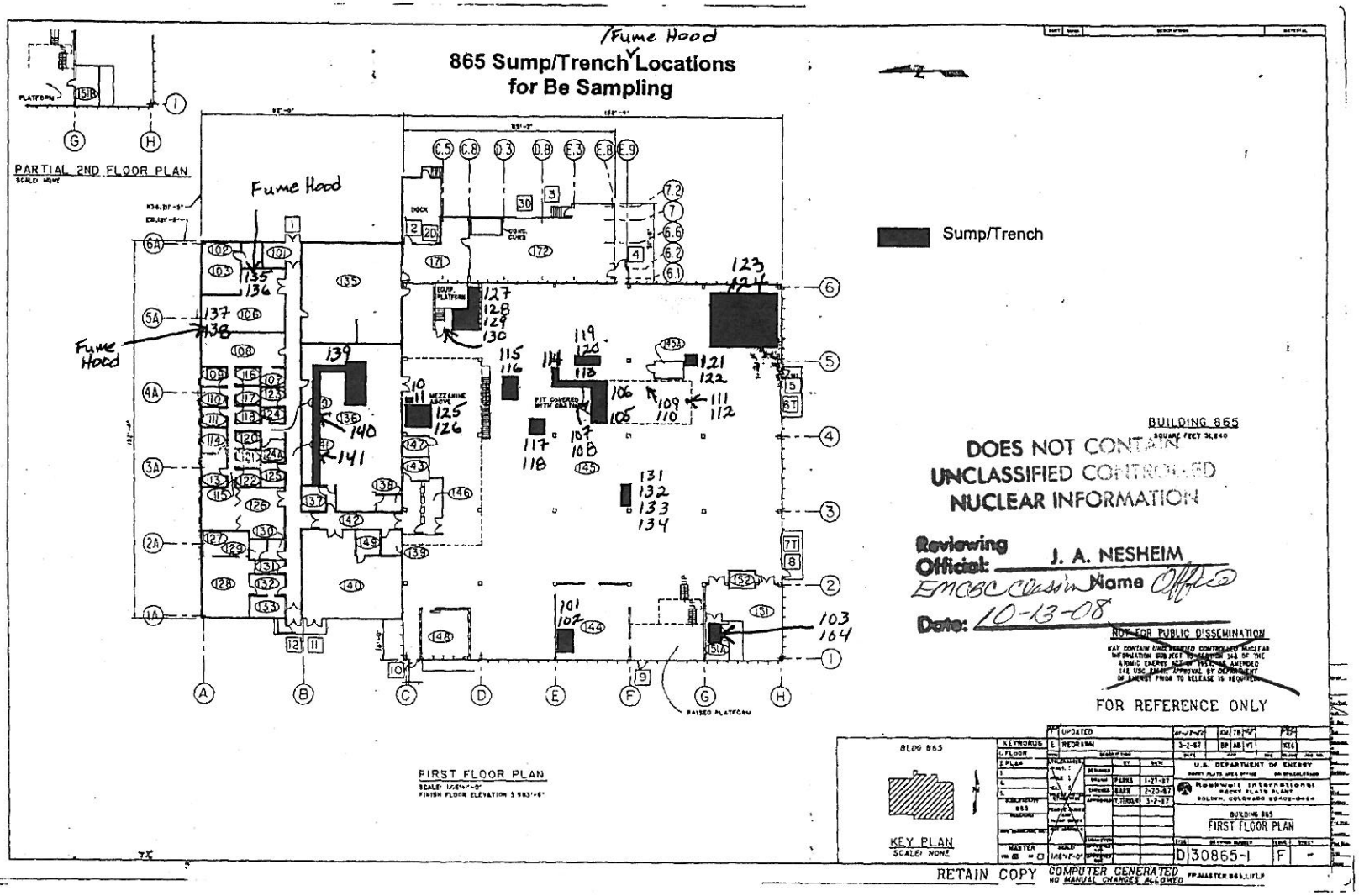
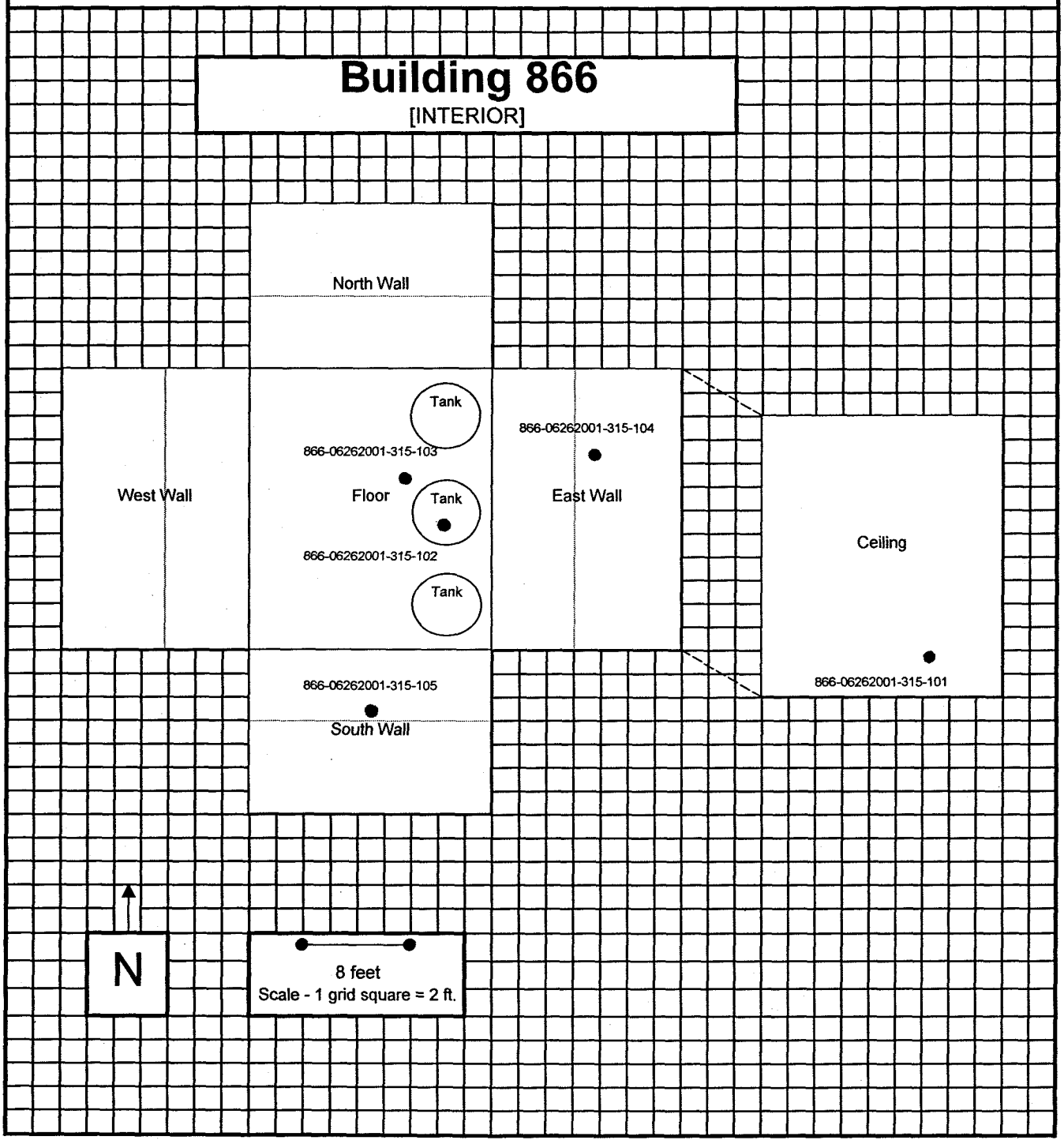

/Fume Hood
865 Sump/Trench Locations
for Be Sampling
Sump/Trench
PARTIAL 2ND FLOOR PLAN
Fume Hood
Fume Hood
FIRST FLOOR PLAN
BUILDING 865
DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION
Reviewing Official: J. A. NESHEIM
EMCBC Classifier Name
Date: 10-13-08
NOT FOR PUBLIC DISSEMINATION
FOR REFERENCE ONLY
BLDG 865
KEY PLAN
SCALE: NONE
UPDATED
3-2-87
U.S. DEPARTMENT OF ENERGY
Rockwell International
ROCKY FLATS PLANT
BUILDING 865
FIRST FLOOR PLAN
D 30865-1
F
RETAIN COPY
COMPUTER GENERATED
NO MANUAL CHANGES ALLOWED

Table F-5 Beryllium Data Summary, Buildings 866, 867 and 868

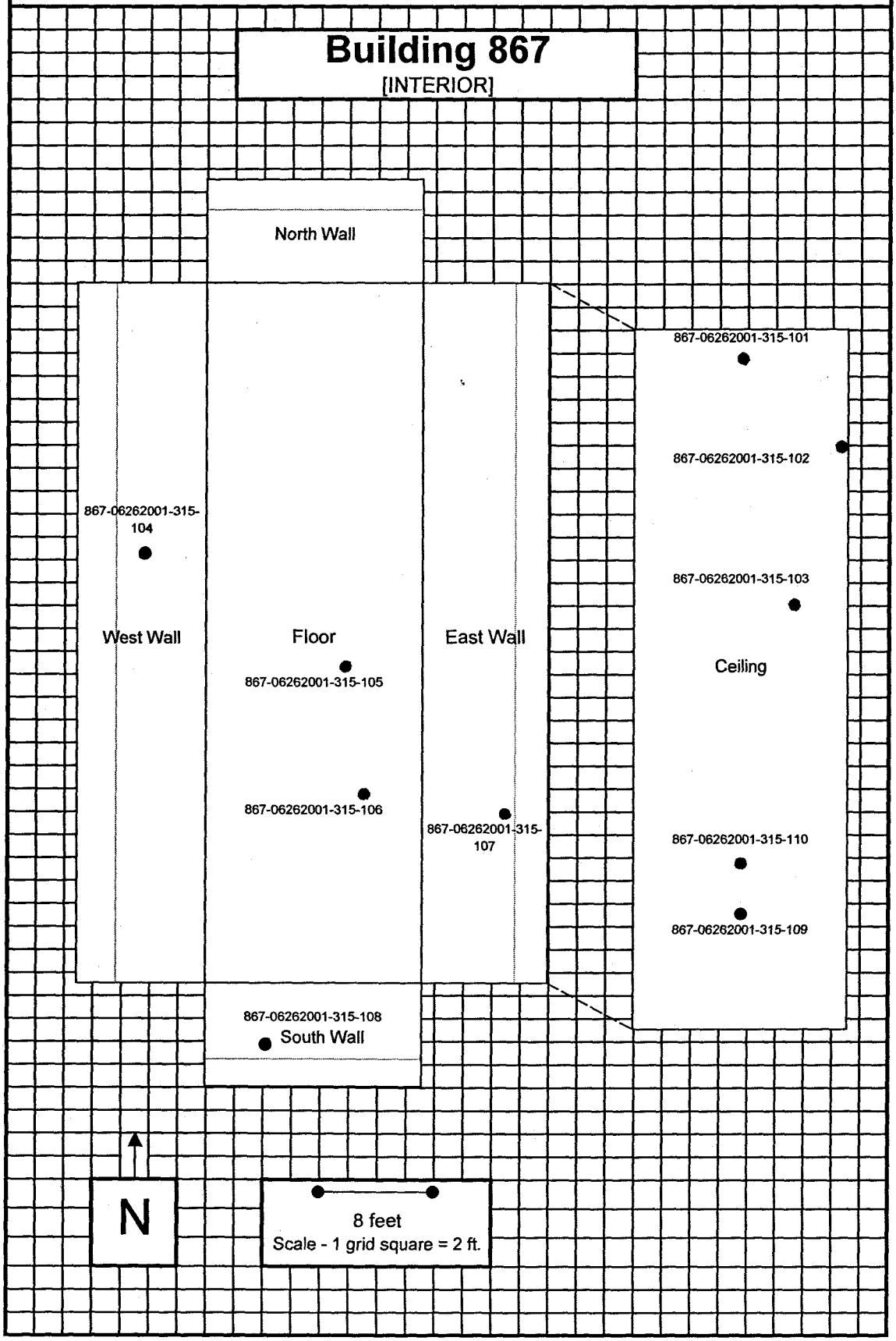
Sample Number	Sample Location	Result ($\mu g/100\ cm^2$)
866-06262001-315-101	Top of south light fixture, horizontal surface	0.18
866-06262001-315-102	Top of waste tank (T-2) horizontal surface	0.11
866-06262001-315-103	Top of process waste pipe	0.25
866-06262001-315-104	Top of 3-phase transformer, east wall	0.11
866-06262001-315-105	Top of HEPA exhaust unit, south wall	< 0.1
867-06262001-315-101	Top of space heater north end of ceiling	< 0.1
867-06262001-315-102	Top of Panalarm	< 0.1
867-06262001-315-103	Top of flange, north exhaust fan	< 0.1
867-06262001-315-104	Top of I-beam brace, middle of west wall	< 0.1
867-06262001-315-105	Horizontal surface of concrete floor	< 0.1
867-06262001-315-106	Top of connector to plenum from south exhaust fan	< 0.1
867-06262001-315-107	Top of view port flange, east wall	< 0.1
867-06262001-315-108	Vertical surface of louver, south wall	< 0.1
867-06262001-315-109	Top of space heater, south ceiling	< 0.1
867-06262001-315-110	Top of light fixture, south ceiling	< 0.1
868-06262001-315-101	Top of view port flange, west wall, south end	< 0.1
868-06262001-315-102	Top of GE electrical panel, east wall	< 0.1
868-06262001-315-103	Top of light fixture, middle of room	< 0.1
868-06262001-315-104	Top of guard for belt drive, south fan unit	< 0.1
868-06262001-315-105	Top of air volume indicator	< 0.1
868-06262001-315-106	Top of heater, south door	< 0.1

Survey Area:	A	Survey Unit:	N/A	Building/Structure:	866
Survey Unit/Area Description:	Interior surfaces & Equipment in B866			(Be SAMPLE LOCATIONS)	



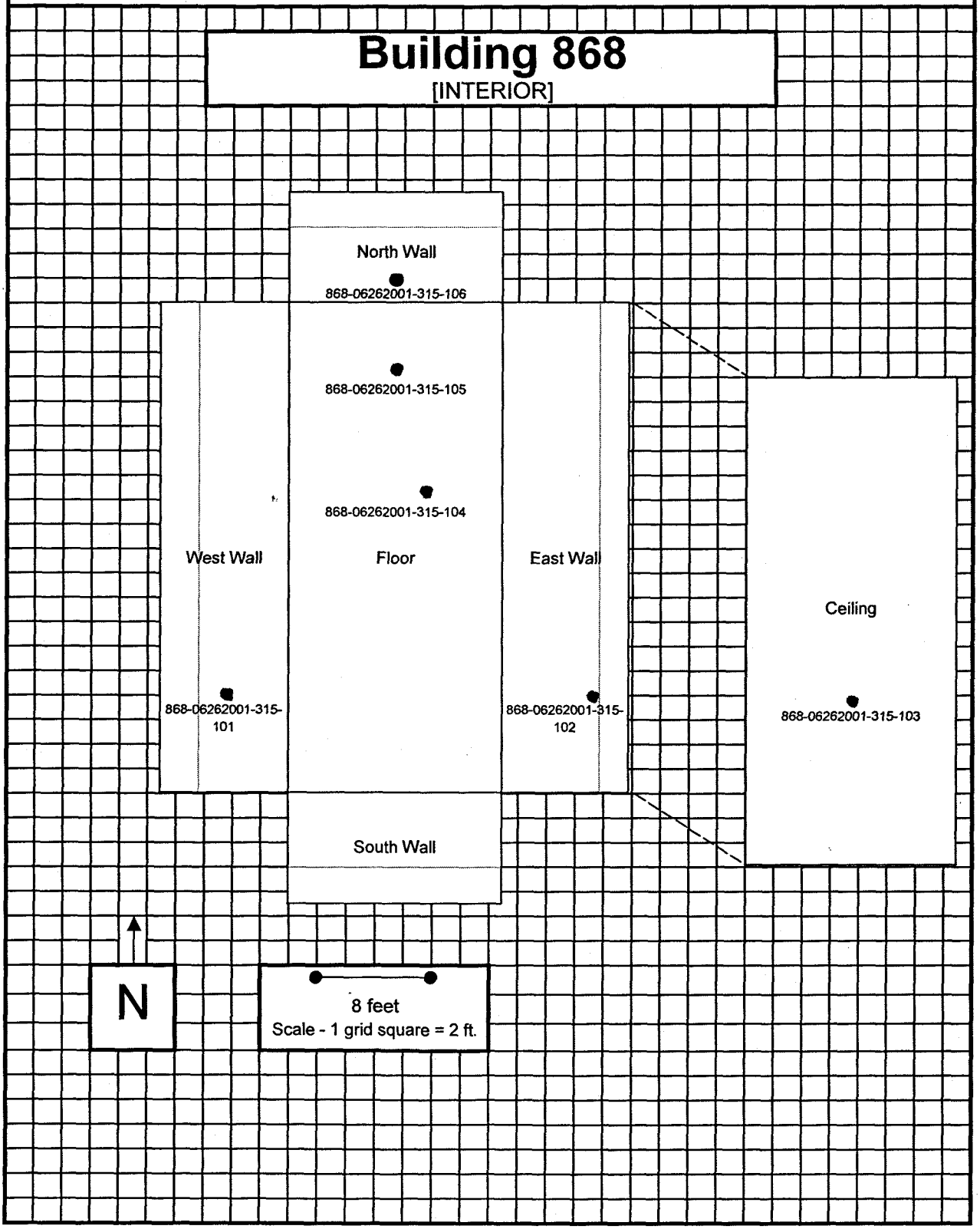
Survey Area: B	Survey Unit: N/A	Building/Structure: 867

Survey Unit/Area Description: Interior surfaces & Equipment in B867 (Be SAMPLE LOCATIONS)



Survey Area:	C	Survey Unit:	N/A	Building/Structure:	868

Survey Unit/Area Description: Interior surfaces & Equipment in B868 (Be SAMPLE LOCATIONS)



RCRA/CERCLA Constituents Data Summary
One Sample Location: Room 145 Engineered, Concrete Trough
Sample Media: Oil

Sample Number	Sample Analyses	Result (*u*g/L)
01S0083-001.004	TCLP VOAs	TCLP VOAs less than regulatory limits
01S0083-001.005	TCLP SVOAs	TCLP SVOAs less than regulatory limits
01S0083-001.003	TCLP Metals	TCLP Metals less than regulatory limits

Metals Analyzed

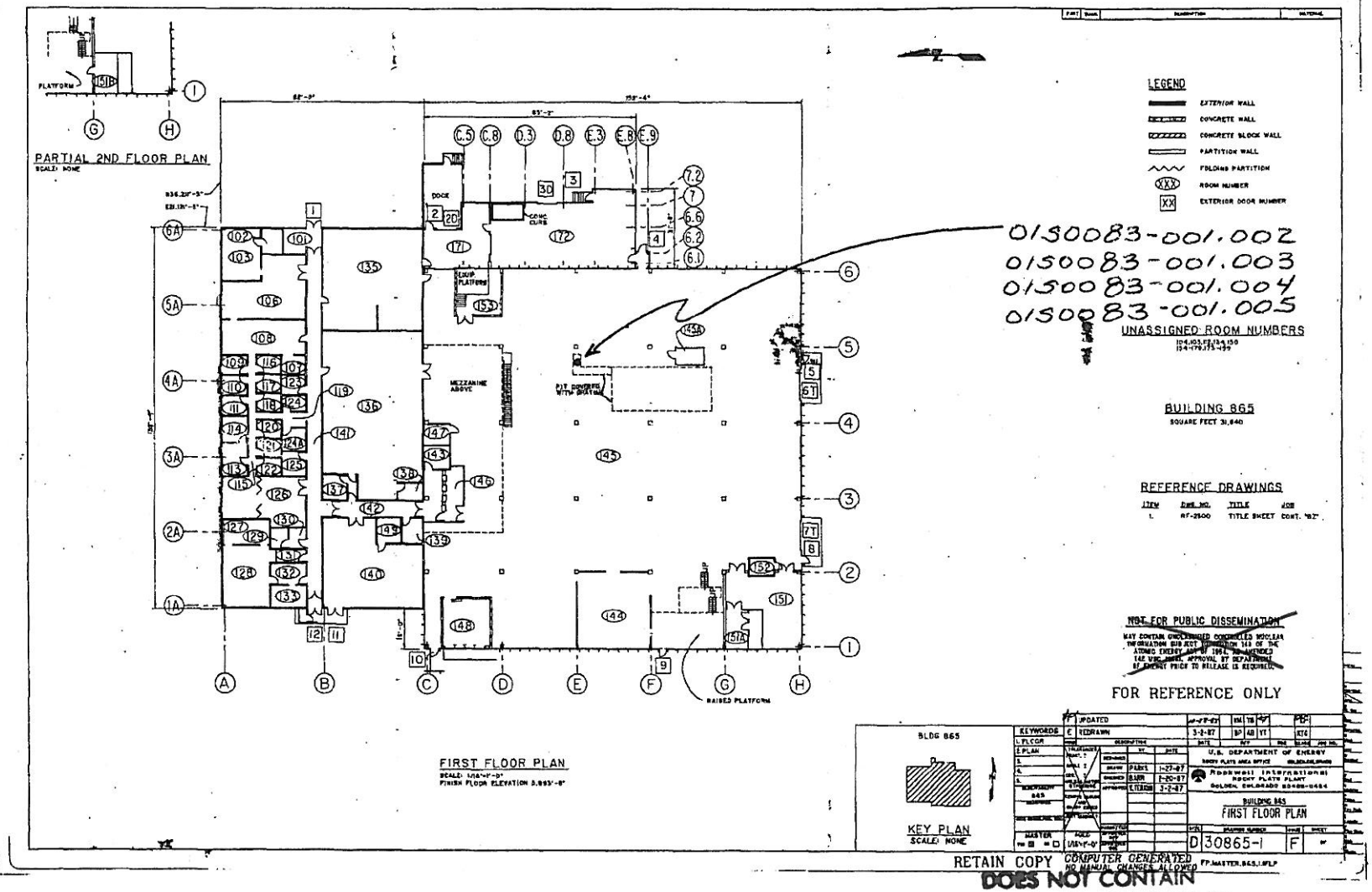
Analyte	Regulatory limit (mg/L)
Arsenic (D004)	5.0
Barium (D005)	100.0
Cadmium (D006)	1.0
Chromium (D007)	5.0
Lead (D008)	5.0
Mercury (D009)	0.2
Selenium (D010)	1.0
Silver (D011)	5.0

Volatile Organics Analyzed

Analyte	Regulatory limit (mg/L)
Vinyl Chloride (D043)	0.2
1,1-Dichloroethene (D029)	0.7
Chloroform (D022)	6.0
1,2- Dichloroethane (D028)	0.5
2-Butanone (D035)	200.0
Carbon Tetrachloride (D019)	0.5
Trichloroethene (D040)	0.5
Benzene (D018)	0.5
Tetrachlorobenzene (D039)	0.7
Chlorobenzene (D021)	100.0
1,4- Dichlorobenzene (D027)	7.5

PCB Data Summary
One Sample Location: Room 145 Engineered, Concrete Trough
Sample Media: Oil

Sample Number	Analyte	Results (ug/L)	Regulatory Limit (mg/L)
01S0083-001.002	Aroclor 1016	20	50
01S0083-001.002	Aroclor 1221	40	50
01S0083-001.002	Aroclor 1232	20	50
01S0083-001.002	Aroclor 1242	20	50
01S0083-001.002	Aroclor 1248	20	50
01S0083-001.002	Aroclor 1254	20	50
01S0083-001.002	Aroclor 1260	20	50



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EMCBC Classification Office
Date: 10-13-08

ATTACHMENT G

Decommissioning Waste Types And Volume Estimates

Attachment G – Decommissioning Waste Types and Volumes Estimates

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated/ Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
865	77,700	0	1,000	0	3,600	18,900	Urethane 20,000 cu ft
866	525	0	200	0	0	7	Insulation 230 cu ft
867	1,970	0	500	320	0	0	None
868	1,970	0	500	230	0	0	None

1. All waste types are assumed to be LLW and Be waste.

ATTACHMENT H

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses, specifically beryllium and asbestos.

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed; the radiological survey assessment is provided in Table H-1, asbestos in H-2, and beryllium in H-3. A completeness summary for all results is given in Table H-4.

All relevant Quality records supporting this report are maintained in a Project File. The Regulators will submit this report to the CERCLA Administrative Record for permanent storage within 30 days of approval. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by sample number and corresponding sample location.

No beta/gamma survey designs were implemented for the 886 Cluster based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Stated differently, based on the well-established suite of actinides historically used at the RFETS, all of these actinides would emit alpha radiation in exceedance of the applicable transuranic DCGLs before other DCGLs would be exceeded for their respective Uranium species – Technical Basis Document 00162, Rev. 0, *Technical Justification for Types of Surveys Performed During Reconnaissance Level Characterization Surveys and Pre-Demolition Surveys in RISS Facilities,* corroborates the use of this conservative approach.

Consistent with EPA's G-4 DQO process, the radiological survey design was optimized by checking actual measurement results (acquired during pre-demolition surveys) against model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

SUMMARY

In summary, the data presented in this report have been verified and validated relative to quality requirements and the project decisions as stated in the original DQOs. All data are satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels, and all with acceptable uncertainties. Therefore, the Survey Units and buildings in question meet the unrestricted-release criteria with the confidences stated in this section and throughout the 865 RLCR

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Table H-1 V&V of Radiological Surveys

V&V CRITERIA, RADIOLGICAL SURVEYS			K-H RSP 16.00 Series MARSSIM (NUREG-1575) for exterior units; RLCP and RSP 7.02 for interior		
QUALITY REQUIREMENTS					
	Parameters		Measure	frequency	COMMENTS
ACCURACY	initial calibrations		90%<x<110%	≥1	multi-point calibration through the measurement range encountered in the field
	daily source checks		80%<x<120%	≥1	
	local area background	Field	<MDL	≥1	all local area backgrounds were within expected ranges (i.e., none anomalouosly high)
PRECISION	field duplicate measurements for TSA		all results ≤ MDA	≥10% of reals	
REPRESENTATIVENESS	MARSSIM gridding methodology (EXTERIOR ONLY)		statistical and biased	NA	random w/ statistical confidence
	Survey Maps			NA	random and biased measurement locations documented to ±0.2ft
	Controlling Documents (Characterization Pkg; RSPs)		qualitative	NA	see original Characterization Package (planning document) for field/sampling procedures; thorough documentation of the planning, sampling/analysis process, and data reduction into formats
COMPARABILITY	units of measure		dpm/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results
COMPLETENESS	Plan vs. Actual surveys usable results vs. unusable		>95% >95%	NA	
SENSITIVITY	detection limits		TSA: ≤50 dpm/100cm^2 RA: ≤10 dpm/100cm^2	all measures	MDAs ≤ ½ DCGLw per MARSSIM guidelines

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Table H-2 V&V of Chemical Results-Asbestos

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
ASBESTOS	METHOD: EPA 600/R-93/116	LAB ---->	Reservoirs Environmental, Inc	
QUALITY REQUIREMENT		RIN ---->	01D1073	
		Measure	Frequency	COMMENTS
ACCURACY		below detectable amounts	≥1	Semi-quantitative, per (microscopic) visual estimation
PRECISION		all below detectable amounts	≥40 samples	Semi-quantitative, per (microscopic) visual estimation
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact; FAX COPY ILLEGIBLE: completed paperwork, containers w/ custody seals
	Hold times/preservation	Qualitative	NA	Not applicable
	Sample Maps	Quantitative	per area	
	Controlling Documents (Plans, Procedures, etc.)	Qualitative	NA	See Table H-1 for analytical methods; original Characterization Package (planning document) for field/sampling procedures; thorough documentation of the planning, sampling/analysis process, and data reduction into formats
COMPARABILITY		% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	Qualitative	NA	See Table H-3; final number of samples at Certified Inspector's discretion
SENSITIVITY	Detection limits	<1% by volume	all measures	

Table H-3 V&V of Chemical Results-Beryllium

V&V CRITERIA, CHEMICAL ANALYSES			DATA PACKAGE		
BERYLLIUM	**Prep: NMAM 7300 Method: OSHA ID-125G**		**LAB ---->**	DataChem, Salt Lake City	
QUALITY REQUIREMENTS			**RIN ---->**	01D1321 01D1003	
			measure	**frequency**	**COMMENTS**
ACCURACY	calibrations	initial	r^2 >0.99	≥1	calibration range not verified
		continuing	80%<%R<120%	≥1	
	LCS		80%<%R<120%	≥1	Accuracy of beryllium results was adequate based on acceptable percent recoveries of LCS performed on a laboratory batching basis (spike @ 25 ug); **however, spike amounts are excessively high at ~2 orders of magnitude greater than the associated action level of 0.2 ug/swipe.**
	blanks	lab & field	<MDL	≥1/batch	Field blanks yielded ?? (field blanks not identified in data package); all lab blanks yielded results <RDL
	interference check std (ICP)			NA	not necessary, in absence of analysis for other metals
PRECISION	LCSD		80%<%R<120% (RPD<20%)	≥1	Intra-laboratory precision was adequate based on acceptable percent recoveries of LCSD performed on a laboratory batching basis (%R ± 20% @ 25 ug); **however, LCS & LCSD quantities are 2 orders of magnitude greater than the action level.**
	field duplicate		all results < RL	≥1	Repeatability of beryllium results was not evaluated through field duplicates, based on the removable nature of the sampling process; this is consistent with radiological survey methodology, where repeatability is only evaluated relative to TSA measurements (fixed activity), and not removable activity. Overall repeatability within the sample set is indeterminate at this time.
REPRESENTATIVENESS	COC		qualitative	NA	Chain-of-Custody intact: completed paperwork, containers w/ custody seals
	hold times/preservation		qualitative	NA	not applicable
	maps				

V&V CRITERIA, CHEMICAL ANALYSES			DATA PACKAGE		
BERYLLIUM	**Prep: NMAM 7300 Method: OSHA ID-125G**		**LAB ---->**	DataChem, Salt Lake City	
QUALITY REQUIREMENTS			**RIN ---->**	01D1321 01D1003	
			measure	**frequency**	**COMMENTS**
	Controlling Documents (Plans, Procedures, etc.)		qualitative	NA	standardized analytical method; original Characterization Package (planning document) refers to field/sampling procedures; thorough documentation of the planning, sampling/analysis process; data reduction into clear and usable formats
COMPARABILITY	measurement units		ug/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results;
COMPLETENESS	Plan vs. Actual samples usable results vs. unusable		>95% >95%	NA	
SENSITIVITY	detection limits		0.05ug/100cm^2	all measures	The method detection limit (MDL) for beryllium is cited.

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Table H-2 V&V of Chemical Results-RCRA/CERCLA Constituents

V&V CRITERIA, CHEMICAL ANALYSES			DATA PACKAGE		COMMENTS
TCLP Metals	METHOD: SW1311/6010		LAB ---->	Lionville Lab, Inc.	
QUALITY REQUIREMENT			RIN ---->	01S0083	
			measure	frequency	
ACCURACY	calibrations	initial & ICV, ICB	r^2 >0.99	≥1/batch	
		CCV, CCB	80%<%R<120%	≥1/batch	
	LCS		80%<%R<120%	≥1/batch	
	blanks	lab & field	<MDL	≥1/batch	Because no chemical results exceeded detection limits, evaluation of blank data was not required; field blanks yielded nondetect values.
	serial dilutions				
	interference check std (ICP)		80%<%R<120%	≥1/batch	
PRECISION	LCSD		|RPD|<20%	≥1/batch	
	field duplicate		all results < regulatory limit or RPD	≥5% of reals	SAMPLING PRECISION NOT ESTABLISHED; field duplicate not acquired
REPRESENTATIVENESS	COC		Qualitative	NA	Chain-of-Custody intact; completed paperwork, containers w/ custody seals
	hold times/preservation		<180 days	NA	
	Controlling Documents (Plans, Procedures, etc.)		Qualitative	NA	
COMPARABILITY			ug/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results;
COMPLETENESS	Plan vs. Actual samples usable results vs. unusable		>95% >95%	NA	
SENSITIVITY	detection limits		various	all measures	All reporting limits were less than one order of magnitude of the associated action level.

Table E-3 V&V of Chemical Results – Volatile Organic Compounds (VOCs)

V&V CRITERIA, CHEMICAL ANALYSES			DATA PACKAGE		
TCLP VOCs	METHOD: SW1311/8260		LAB ---->	Lionville Lab Inc.	
			RIN ---->	01S0083	
QUALITY REQUIREMENT					COMMENTS
			measure	frequency	
ACCURACY	calibrations	initial	±40%D in Response Factor	≥1/batch	
		continuing	80%<%R<120%	≥1/batch	
	LCS		80%<%R<120%	≥1/batch	Accuracy was adequate based on acceptable percent recoveries of LCS performed on a laboratory batching basis (spike @ x ug).
	MS		75%<%R<125%	≥1 batch	
	blanks	lab	ug/kg	≥1/batch	Because no real sample results exceeded action levels, blank results did not affect decisions
	internal standards		retention times and area factors	≥1/batch	
	surrogate		%R (variable)	≥1/batch	
PRECISION	MSD		RPD<30%	≥1/batch	
	field duplicate		all results < regulatory limit or RPD	≥5% of reals	SAMPLING PRECISION NOT ESTABLISHED; field duplicate not acquired
REPRESENTATIVENESS	COC		qualitative	NA	Chain-of-Custody intact; data packages complete; containers w/ custody seals
	hold times/preservation		≤ 14 days	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)		qualitative	NA	
COMPARABILITY			ug/kg	NA	Use of standardized engineering units in the reporting of measurement results;
COMPLETENESS	Plan vs. Actual samples usable results vs. unusable		>95% >95%	NA	
SENSITIVITY	detection limits		various	all analytes	All reporting limits were less than one order of magnitude of the associated action level. – exceptions are

Table E-3 V&V of Chemical Results – Volatile Organic Compounds (SVOCs)

V&V CRITERIA, CHEMICAL ANALYSES			DATA PACKAGE		
TCLP SVOCs	METHOD: SW1311/8270		LAB ---->	Lionville Lab Inc.	
			RIN ---->	01S0083	
QUALITY REQUIREMENT					COMMENTS
			measure	frequency	
ACCURACY	calibrations	initial	±40%D in Response Factor	≥1/batch	
		continuing	80%<%R<120%	≥1/batch	
	LCS		80%<%R<120%	≥1/batch	Accuracy was adequate based on acceptable percent recoveries of LCS performed on a laboratory batching basis (spike @ x ug).
	MS		75%<%R<125%	≥1 batch	
	blanks	lab	ug/kg	≥1/batch	Because no real sample results exceeded action levels, blank results did not affect decisions
	internal standards		retention times and area factors	≥1/batch	
	surrogate		%R (variable)	≥1/batch	
PRECISION	MSD		RPD<30%	≥1/batch	
	field duplicate		all results < regulatory limit or RPD	≥5% of reals	SAMPLING PRECISION NOT ESTABLISHED; field duplicate not acquired
REPRESENTATIVENESS	COC		qualitative	NA	Chain-of-Custody intact; data packages complete; containers w/ custody seals
	hold times/preservation		≤ 14 days	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)		qualitative	NA	
COMPARABILITY			ug/kg	NA	Use of standardized engineering units in the reporting of measurement results;
COMPLETENESS	Plan vs. Actual samples usable results vs. unusable		>95% >95%	NA	
SENSITIVITY	detection limits		various	all analytes	All reporting limits were less than one order of magnitude of the associated action level. – exceptions are

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Table E-4 V&V of Chemical Results – PCBs

V&V CRITERIA, CHEMICAL ANALYSES			DATA PACKAGE		
PCBs	METHOD: OLM3.1 CLP		LAB ---->	Lionville Lab Inc.	
			RIN ---->	01A0160	
QUALITY REQUIREMENT					COMMENTS
			measure	frequency	
ACCURACY	calibrations, retention times	initial	various	≥1/batch	
		continuing	80%<%R<120%	≥1/batch	as above
	LCS		80%<%R<120%	≥1/batch	Accuracy was adequate based on acceptable percent recoveries of LCS performed on a laboratory batching basis (spike @ x ug). Resolution check standards also satisfactory
	MS		75%<%R<125%	≥1/batch	all matrix spikes failed; low bias suspected
	surrogates		various	≥1/batch	9 of 20 surrogates out of tolerance; bias indeterminate
	blanks	lab	<MDL	≥1/batch	1 of 6 blank recoveries out of tolerance; bias indeterminate
PRECISION	MSD		75%<%R<125%	≥1/batch	
	field duplicate		all results < regulatory limit or RPD	≥5% of reals	SAMPLING PRECISION NOT ESTABLISHED; field duplicate not acquired
REPRESENTATIVENESS	COC		qualitative	NA	Chain-of-Custody intact; data packages complete; containers w/ custody seals
	hold times/preservation		≤30 days extract ≤45 days analysis	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)		qualitative	NA	
COMPARABILITY			ug/kg	NA	Use of standardized engineering units in the reporting of measurement results;
COMPLETENESS	Plan vs. Actual samples usable results vs. unusable		>95% >95%	NA	
SENSITIVITY	detection limits		various	all analytes	All reporting limits were less than one order of magnitude of the associated action level.

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Table H-4. Data Completeness Summary for the 865 Cluster.

ANALYTE	# Samples Planned (incl. Media; Real & QC Samples)	# Taken (Real & QC Samples)[B]	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos[A] • Bldg 866, interior	(biased/reals) 2	(no QC) 2	No ACM	40 CFR 763.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN 01D1073 (NOTE: "No ACM" is <1% by volume)
Beryllium (swipes) • Bldg 865 • Bldgs 866, 867, & 868	(total, biased, reals) 30 21	 43 21		NIOSH NMAM 7300, OSHA ID-125G RIN 01D1321 RIN 01D1003
CERCLA/RCRA chemicals	1	1		Various methods (see summary tables for each) RIN 01D0083 No QC samples acquired based on apparent homogeneity of liquid matrix.

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ANALYTE	# Samples Required (incl. Media; Real & QC Samples)	# Taken (Real & QC Samples)[B]	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological				
• Survey Area A, Bldg 866 Interior	≥70 TSA & Smears	70	Areas of contamination and typing of building established	None
• Survey Area B, Bldg 867 Interior	≥70 TSA & Smears	70		
• Survey Area C, Bldg 868 Interior	≥70 TSA & Smears	70		
• Survey Area E, Bldg 865 Sumps	≥30 TSA & Smears	30		
• Survey Unit: 865001 – 865010, & 865012	15 TSA & 15 Smears (15random) each ≥5% QC TSA each 10% Scan each	15	No contamination at any location; all values below unrestricted release levels	No results above $DCGL_W$ or $DCGL_{EMC}$ action level (20 dpm/100cm^2 removable, 100 dpm/100cm^2 average, and 300 dpm/100cm^2 maximum.

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